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[NOTICE.]

Wrinkle Department, American Gas Institute.

WRINKLE DEPARTMENT, AMERICAN GAS INSTITUTE,
OFFICE OF EDITOR, GAS OFFICE BUILDING,
DETROIT, MICH, March 12th, 1909.

To the Members, American Gas Institute: All members of the American Gas Institute are earnestly requested to forward contributions for the Wrinkle Department as soon as possible.

Your co-operation determines the success of the Department.

F. L. CROSS, Editor.

[NOTICE.]

Fourth Annual Meeting, Natural Gas Association of America.

NATURAL GAS ASSOCIATION OF AMERICA,
OFFICE OF SECRETARY,
DELAWARE, O., March 8th, 1909.

You are most cordially invited to attend the Fourth Annual Meeting of the Natural Gas Association of America, to be held in Columbus, O., May 18th, 19th and 20th, 1909.

The meetings will be held in Assembly Hall, Great Southern Hotel, the headquarters. The Great Southern is conducted on the American plan, and the following rates have been secured for the meeting—$2.50 to $5 per day. The most satisfactory quarters are always obtained by writing in advance to the hotel people, who will put forth every effort for the comfort of the Association.

The Governor of Ohio, Hon. Judson Harmon, will welcome the Association at the opening of the meeting.

A most interesting feature will be an exhibition of gas appliances.

The technical programme of the meeting is being compiled, and will be sent out later by the Secretary of the Association.

It may be that you are not a member of the Association, and, in soliciting you to become a member, we are not offering you a grand opportunity for disappointment, nor is there the least element of chance in the matter. You can submit your application at the meeting, but you will be showing the Association considerable courtesy and doing yourself a good turn should you sign and send in at once the inclosed application blank.

Columbus is a most attractive convention city, and the Committee on Local Arrangements will do all in their power to entertain all those who attend the meeting.

T. C. JONES, Secretary,
Committee on Local Arrangements.

BRIEFLY TOLD.

DEATH OF MR. JAMES R. FLOYD.—With much sorrow we report the death, at his home in this city, of Mr. James R. Floyd, who passed away the morning of Tuesday last. Deceased was in his 83d year, and for two score years (from 1850 to 1890) no other man was more prominent in the manufacture of gas apparatus than deceased. In fact, through the 1870–1880 decades of the last century the fame of the Oregon Foundry was world-wide amongst gas men. The funeral services were held in the Church of St. Thomas the Apostle, New York, the afternoon of last Thursday. Later on we shall print some accurate history of his useful life.

A CORRECTION.—Mr. C. J. Ramsburg, Assistant to Engineer of Works, Philadelphia division of the United Gas Improvement Company, calls our attention to the fact that, on page 587 of the JOURNAL, dated April 5th, in the course of his remarks in the discussion of the paper read before the New England Association of Gas Engineers, by Mr. R. E. Wyant, of New Haven, on the subject of "Some Results on the Use of Steam and Air Meters in the Water Gas Plant," an error occurs in our reporting. He is quoted as having said that 2 per cent. of CO escaping with the blast products from a water gas machine is equivalent to 2 pounds of fuel per 1,000 feet. What Mr. Ramsburg did say was that the equivalent saving under such circumstance was 1 pound of fuel per 1,000.

CHANGE IN ADDRESS, EDITORIAL OFFICES, BUREAU OF INFORMATION, THE AMERICAN GAS INSTITUTE.—We are this week enabled to give some exact lide on Mr. W. A. Baehr's future intent. He has rented suitable offices in the Monadnock Building, Chicago, where he may be consulted at any time on matters connected with the buziness of civil engineering generally. Of course, his specialty will be that of gas engineering, and it is hardly necessary on our part to testify to his ability as an engineer and to his int[illegible] However,

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we will take the risk of seeming superfluous, and here declare that his ability in the first instance has been demonstrated amply by his acts in St. Louis and elsewhere. In the second instance, it is our pleasant province to bear personal testimony to his straightforwardness. Mr. Baehr will also act as the Western representative of Messrs. Bartlett, Hayward & Co.

THE GROWTH OF ONE WESTERN COMPANY.—"Gas Tips" is the appropriate title of a very small leaflet that is issued monthly by gas companies doing business in many cities of the country. A copy of one just to hand was published by the Portland (Ore.) Gas Company, and it has to do mainly with the recital of some parts of the Company's records so far for 1909, compared with like parts of 1908. From this comparison it is seen that the Company's increase in sendout for the corresponding period of last year figures at 23 per cent. In connection with this surpassing increase in a long-time settled city, it might well be borne in mind that the main system of the Company has been lengthened by the putting down of 12 miles of pipe, none of which is less than 3 inches diameter. Its taxes amounted to $25,511.07, an increase of quite 10 per cent. Its payments on wage accounts amounted to $275,283.04, and to $831,549.25 to contractors and supply merchants. The increase of consumption per mile of main was 21.5 per cent. in West Portland, while the loss in the East Portland section on similar account, was ½ per cent. per mile. That seeming loss, however, in the face of such large gains in the city proper, is easily explained when it is known that 25 miles of main were laid in East Portland, several stretches of which will not yield anything like a return on the investment for quite a while, although it was necessary to go through them in order to hook into sections intervening in which a profitable business could be done. In respect of this practice of main laying "Gas Tips" declares: "The Company has thus, to safeguard its interests, adopted a plan for that class of extensions which appears at once just and equitable, for under this plan any individual or group of property owners may have main extensions and service connections. By depositing the actual cost of such extension, which amount is returned in full, just as soon as the consumption of gas reaches 500 cubic feet, or 50 cents in any one year per $1 invested in such extension, the work of laying mains and services will be done immediately. This is based on a 6 per cent. return on the capital invested."

CURRENT MENTION.—

THE April meeting of the Chicago Section of the Illuminating Engineering Society was held in the "Chicago Room" of the Great Northern Hotel, at noon of Thursday last. The scheme of preceding the meeting with a *table d'hote* luncheon has proved quite successful. In any event the attendance last week was excellent. The paper for the day was prepared by Mr. C. A. Luther, and its subject was "Up-to-Date Gas Fixtures." The text was well illustrated by a goodly number of lantern-slide projections. Despite the softening tendency to blurring out hard lines that is possessed by the slide method of picture painting or showing, the thought would not down that the band in the arts allied to the gas industry, who have been most faithful to the traditions of days bygone without change, are undoubtedly the gas fixture manufacturers.

THE residents of Tacony, Pa., are again insistent in their urging that if the authorities cannot lay on a better supply of gas to that district, private capitalists should be granted permission to construct and operate a gas works for Tacony's own individual account. To the latter end a special committee of Taconyites (Messrs. Winnick, Acuff and Rylye) has been interviewing Mayor Reyburn, of Philadelphia, in an effort to induce him to advocate to Councils the Tacony project for a distinct gas works.

THE third annual meeting of the Electric Light, Gas and Street Railway Association of Missouri will be held in Springfield, Mo., the 15th, 16th and 17th insts. The President is Mr. C. W. Hays. The programme, which is quite a lengthy one, carries these numbers that might be of interest to gas men, namely: "Insurance on Public Plants," by Mr. C. W. Hough; "The Tungsten Lamps from the Central Station Manager's Standpoint," by Mr. Paul M. J. Lowe; and "Office System and Accounting," by Mr. N. J. Cunningham, of the Springfield Gas and Electric Company. President W. A. Bixby, of the Springfield Traction Company, who was one time decidedly a gas man, as was his father, too, is prominent in the affairs of the Association. A banquet is to be set for the evening of the second day, and the outing time will include a visit to the plants of the Springfield Gas and Electric Company.

Ovens with Horizontal Chambers at Rotterdam.

In the Dutch Journal "Het Gas," Vol. 28, No. 11, p. 489, Mr. M. Siningh, Manager of the gas plant at Rotterdam, published the following results concerning the new oven with horizontal chambers, designed and erected by Mr. August Kloenne, Dortmund, Germany. Regarding the construction of the oven, together with the results obtained, he virtually said:

The accompanying plans and illustrations will help to make matters plain. To study the making of gas in horizontal chambers, similar in design to those used for coking purposes, an oven was built at the gas works in Oost Zeedyk, Holland. The construction of this oven is similar to that of modern coking ovens (see Fig. 1), the main

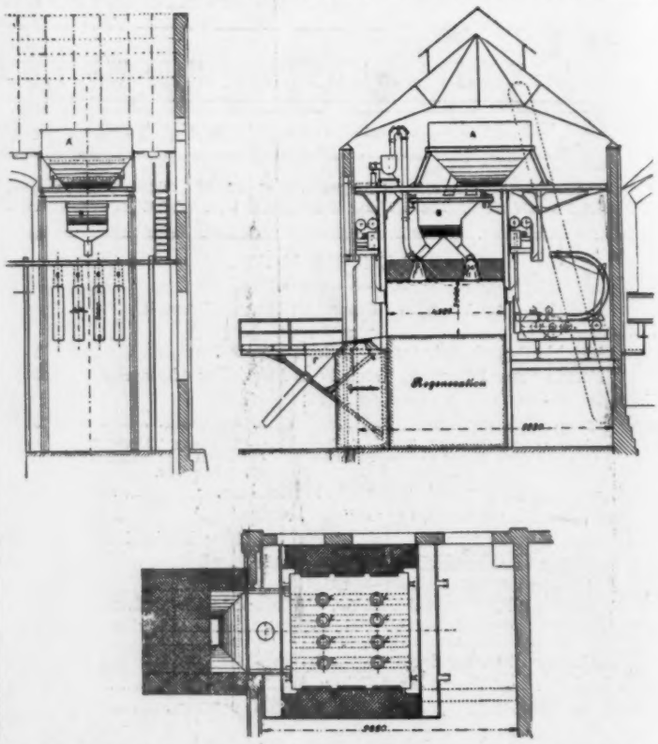


Fig. 1.—Oven with Four Horizontal Chambers at Rotterdam. *A.* Main coal bunker. *B.* Movable charging wagon. *C.* Charging opening. *D.* Lifting device for door. *E.* Coke ram. *F.* Coke receiver.

difference being that while in a gas works the manufacture of gas is the chief point, whereas in coking ovens the production of coke is the main point. It follows, therefore, that a chamber oven for making gas is fired with coke, while the coke oven is generally fired with gas. Hence it becomes necessary that gas of much higher value must be produced in the oven for gas works than in a coking oven, the main product therefrom being coke. The coal to be carbonized in a gas works is neither washed nor wet and the time for carbonization is very much shortened.

The room at their disposal on the site at Oost Zeedyk was very narrow. Further it became necessary to adapt some old foundations on which formerly an oven with vertical retorts had been constructed. The oven, therefore, had to be built in a somewhat abnormal way, which would not have been done if there had been more room at command.

This oven has 4 chambers, each 14 feet 9 inches long, about 7 feet high, and, on an average, 16 inches wide. The charges are made every 24 hours, and the coal is introduced into the chamber by two self-sealing filling openings. The discharging is done by an electrically driven discharging ram and the doors at both ends of the chambers are self-sealing.

The coal is broken so that an elevator can handle and discharge it into an overhead bunker. A movable bunker, *B*, having a capacity of 1 chamber, is charged to do the actual filling. By bringing this movable bunker over the filling opening, *C*, the oven will be charged at the same time through both openings. After charging, the coal is leveled by leveling hooks, which are introduced at the tops of the doors. The two doors of each chamber are mechanically lifted and removed. The sealing is done by three eccentrics. (See Figs. 2 and 3.)

The pushing ram is of the general coke oven design, save on account

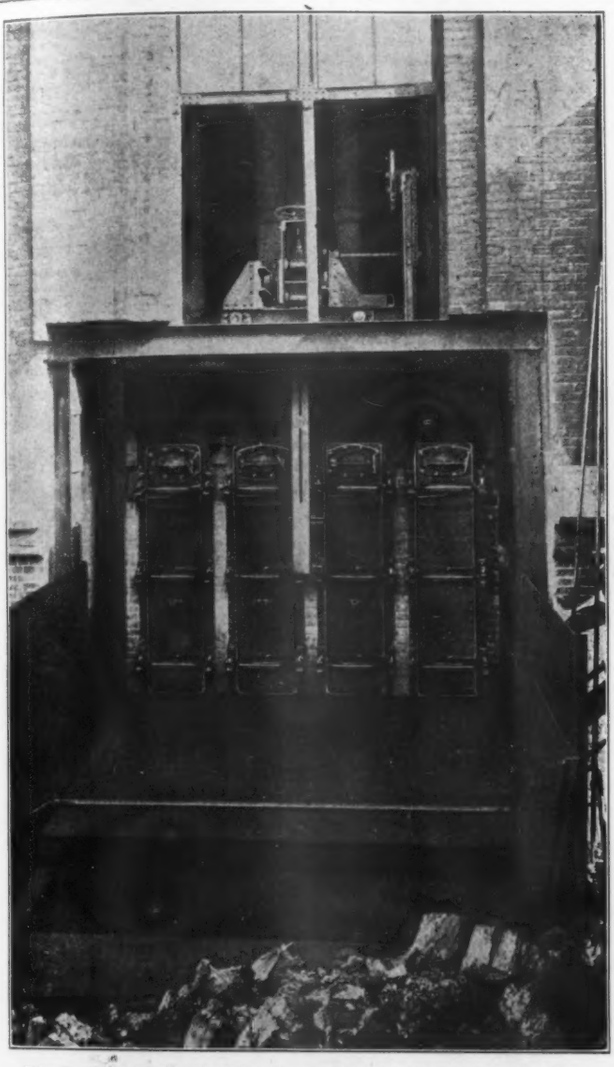


Fig. 2.—Coke Discharging Side, Showing Lighting Arrangement for Door.

Fig. 3.—Coke Discharging Ram, with Electric Motor.

of the small space at disposal; the same is made of links. The gas is taken off in the ordinary way by the standpipe and hydraulic main.

(See Fig. 1.) The production of gas is slight in the beginning and increases evenly for the first 15 hours, when the production is at a maximum. From there on the production diminishes evenly.

The value of the gas produced is about the same as that of an ordinary coal gas of good quality. The coke formation commences by expansion in the beginning; but, at the end of the charges, the coke contracts again, and as it is then loose in the chambers it can be easily removed. The coke comes out of the oven in a solid mass with a joint in the center, the coke generally falling apart to each side. It is somewhat harder and denser than ordinary coke, but can be easily broken, and is fit for all domestic purposes.

The tar is thin and contains very little free carbon. The ovens were tested during three days, beginning at 6 o'clock A.M., October 7, 1908, and were finished October 10, at 6 A. M.

The coal carbonized was Ruhr, mine "Hugo." A platinum crucible analysis, according to Eyndhoven, gave the following results:

Constituents.	Per Cent.
Water	2.45
Volatile matter	28.32
Carbon	59.83
Ash	9.40

Gas Produced.—During the three days there were carbonized in the four chambers 72,706 pounds. The amount of gas made, corrected to 30 in. barometer, and 60° F., was as follows:

Period.	Cubic Feet.
First day	132,596
Second day	134,528
Third day	132,940
	400,064

Or an average of 133,355 cubic feet each 24 hours, and the quantity of gas made per net ton of 2,000 pounds of coal was 11,005 cubic feet.

Heating Value.—The gas was tested calorimetrically every hour, and the heating value found by multiplying the product made every hour by the heating value thereof. It averaged:

Middle upper heating value	623 B.T.U.
" lower "	559 "

The gas products obtained from 2,000 pounds of coal he, therefore, shows possess a heating value of 6,846,100 B.T.U.

Coke Used for Firing the Oven.—During the 3 days 12,808 pounds of coke were used for fuel. The analysis of coke showed as follows:

Content.	Per Cent.
Water	3.57
Carbon	82.63
Ash	13.80

The quantity of coke consumed, after deducting water, is, therefore, 12,325 pounds, or 17 pounds per 100 pounds of coal carbonized. Expressed in carbon, after deducting ash and water, this would mean 14¼ pounds per 100 pounds of coal carbonized, or 290 pounds per ton.

Production of Tar.—During the three days the production of tar was 126.18 pounds per 2,000 pounds of coal = 13.9 U. S. gallons. It contained 2.54 per cent. free carbon only, and had a specific gravity of 1.09.

Ammonia.—The ammonia produced during the three days was equal to 6.68 pounds per 2,000 pounds coal carbonized. During the time of the test the total amount of coke yielded was not determined, as too many other things had to be attended to. However, this was done a few days later, by using a like coal, under similar conditions, with the following results: 24,835 pounds coal yielded a total of 19,047 pounds of coke, or per 2,000 pounds coal, 1,534 pounds coke. The coke contained 5.325 per cent. water, or a production of dry coke of 72.6 per cent., or 1,452 pounds per 2,000 pounds coal carbonized.

Temperature of Distillation.—The chamber temperature was 1,710° F., and the temperature in combustion chambers was 2,178° F. The temperature from one end to the other of the chambers, and from top to bottom, was about absolutely even.

Since the time when the oven was first put in operation (August 8th, 1908), no stoppages in standpipes, nor has trouble from thick tar in hydraulic developed. Further, the formation of graphite in the chamber is unknown.

The Illuminated Clock.

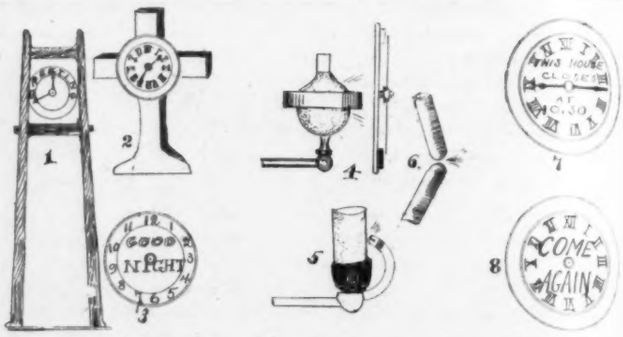
[Communicated by "R."]

The illuminated clock has come to stay, for it is not only a household ornament, but can be used in the office, the bank, the store, the show window and other places for advertising purposes. Although the illuminated clock has been in use for a very long period, it was not until recently that its brilliancy has been made of very much practical use. The illuminated timepiece has opened up quite a new field of work for the gasfitter, the pipe man, the clock man and the electrical worker, and this frequent construction has been something of a boon to the advertising men and has enabled them to create new sources of income. These clocks have given employment to the cabinet makers, for the cabinet makers are called upon, as a rule, to erect the framework, and the sign painters also derive some business from the illuminated clocks, for the men who letter know how to inscribe the necessary ornamentation on its glowing face. The clocks, in fact, have made such an impression in the home and the commercial house that their placing is becoming very frequent. The clocks are mentioned in this connection for the reason that the gas men have been called upon to provide light for the shining orbs of the plate or shell front clocks. There must be a strong illuminated back for the clocks, otherwise the clocks fail in their essential point. There are plenty of liberally decorated face clocks; in fact, these are common; but when a clock front is so constructed that brilliant rays are caused to shine forth and draw the attention of observers, then the clock belongs in another class.

Grandfather's clocks, old hall clocks, clocks of antique design, are made with the illuminated fronts and the blaze of light is made to attract interest and to bring out "Oh's" and "Ah's." One type of illuminated clock is shown in Fig. 1, The clock frame is made like the old fashioned clocks of ancient times; in fact, some of the illuminated clocks are simply grandfather's clocks remodelled with an impregnable front. The aged frame serves the purpose well. The clock face, which may have been of thin veneering or sheet metal, is properly marked. Sometimes the face is ground glass; other times frosted glass is employed; or, perhaps, tinted glass. Again, it may be of sheet metal with the letters or figures stencilled out. The clock figures or letters do not always give the standard arrangement. The letters defining the hours may be enumerated to spell the word "greeting." Hence when the guest enters the house or office, the word of welcome is seen shining boldly in the dim light. Now, there is something attractive and pleasing in a greeting like this. The guests feel at home; the customer to the store is pleased; the words of the host of the hotel where you may stop may be set forth like this. And so on. In the home of a devout Catholic I noticed that an illuminated face clock was arranged, as in Fig. 2, setting forth the shape of the cross. A gentleman, inclined to be novel, had a clock face made with "Good Night" shown, as in Fig. 3, and this was illuminated with a view of exhibiting the phrase as visitors departed.

It is up to the gas man or the electrician to produce the illumination. The interested party gets his clock constructed at the nearest artisans, or he buys one at the second-hand store. Or he relies upon the watch and clock vendor of the vicinity to get the clock. Then the glazier is called upon to make the frosted glass front. On this frontal the man who is artistic with the brush and the paint applies the required inscription. Then the clock body is turned over to the lighting mechanic. Perhaps an ordinary gas jet is used. Or an arc light may be introduced. If common jets are employed only a fair brilliancy can be obtained, but you will find various kinds of more powerful illumination in service. The modern types of gas arcs are available. For purposes of advertising a big-face clock, it is necessary that a good light be had. Fig. 4 shows the plan in general of the light in the back of the clock face. I saw a burner of the calcium type in use for a large advertising illuminated clock. Fig. 5 shows the burner with the lime. Two gas tanks were used, one containing hydrogen, the other oxygen gas. About 600-candle power light was obtained. Fig. 6 shows a good position for the carbons, in case you use an electric light, as this position will tend to make the light shoot forward towards the plate front. You can use about 1,000-candle power with the electric lamp, to good advantage; but for common house purposes the little incandescent lamps, or the gas jets, are preferable. For the den, the arbor, the archway, the library, almost any forms of gas lights back of the clock faces will be suitable.

Many varieties of signs are inscribed on the clock faces. Fig. 7



shows what one party had, who, I was told, was grouchy. It seems that the father disliked the long night visits of a young man who courted the grown-up daughter, and who caused the consumption of considerable gas thereby. So, the old man had a clock front made, as in Fig. 7, denoting that the house would close at 10:30 o'clock. At a little before the time the old man snapped on light and made the sign show forth and the young man alwas retired. To offset this, another party has a sign on a clock front illuminated, "Come again," as in Fig. 8.

[Proceedings, as Furnished by the Secretary.—Continued from page 589.]

PROCEEDINGS, THIRTY-NINTH ANNUAL MEETING, NEW ENGLAND ASSOCIATION OF GAS ENGINEERS.

Held in Young's Hotel, Boston, Mass., Feb. 17, 18, 1909.

First Day—Morning Session.

At the suggestion of the President the Secretary called

THE ROLL,

with the following result:

Active.

Addicks, W. R.	Gould, J. A.	Norton, H. A.
Africa, W. G.	Gould, V. K.	Norton, W. F.
Allen, B. J.	Havener, F. N.	Norton, P. T.
Anderson, W.	Hawken, T.	Nute, J. E.
Barnes, A. M.	Hintze, H. S.	Nutting, C. H.
Barnum, D. D.	Hintze, T. H.	Parker, F. H.
Beedy, F. E.	Humphreys, J. J.	Prichard, C. F.
Bill, W. C.	Jenks, Z. M.	Quinn, A. K.
Brockington, F. T.	Jennings, F. W.	Richardson, F. S.
Burritt, D. F.	Johns, L. B.	Slade, R. E.
Cathels, E.	Kelly, H. H.	Slater, A. B.
Cheney, H. N.	Kennedy, J. P.	Snow, W. H.
Coffin, J. A.	Lamson, C. D.	Spaulding, C. F.
Cook, R. W.	Learned, C. A.	Spaulding, C. S.
Cooper, A. F.	Leonard, C. F.	Spear, J. N.
Crafts, H. C.	Mace, F. W.	Stone, A. F.
Dolan, J. B.	Manchester, G. L.	Storer, E. I.
Eccles, A. D.	McKay, W. E.	Tinker, O. R.
Ellis, J. W.	Miller, C.	Walker, W. L.
Fish, R. E.	Mooney, E. B.	Wood, W. A.
Fowler, S. J.	Morrison, H. K.	Woodward, R.
Gifford, C. H.	Nettleton, C. H.	Wyant, R. E.
Gifford, N. W.	Nichols, W. B.	Yorke, E. H.
Goodwin, F. A.		

Associate.

Barnes, F. G. P.	Garsia, E.	Potter, T. J.
Blanchard, G. L.	Gardiner, W. H.	Pratt, F. S.
Beardsley, A. P.	Griswold, C. S.	Scranton, G. H.
Burr, A. R.	Hall, A. S.	Stiness, G. A.
Caldwell, G. A.	Hinman, C. W.	Stetson, G. R.
Chisholm, C. F.	Holmes, R. E.	Waldo, J. A.
Coburn, C. M.	Huestis, F. C.	White, H. E.
Cortis, D. T.	Norton, A. E.	Willien, L. J.
Crowther, A. W.	Osborne, R.	Wood, G. B.
Davis, F. J.	Paige, C. E.	Wrightington, E. N.
Drake, F. E.	Piser, T. H.	

The Question Box.

The President—We have a few minutes that we can devote to some of the questions from the Question Box. The first is:

"What should be the character of firebrick for use in water gas making?"

Will anyone answer that question? Mr. Nute, do you want to answer it?

Mr. Nute—I think I am unable to do so. We have been trying, as

I suppose all of us have who are operating water gas sets, of firebrick from different manufacturers all over the country, but have not settled to any particular one of them. Two or three different makes have given us very satisfactory results. Possibly Mr. Leonard can give something more about the details.

The President—The Secretary has a letter on this subject.

The Secretary—This is a communication received from a gentleman, who, I believe, is not a member:

Our attention has been called to a query in the question box to which we desire to make following reply: Firebrick which are destined for use in carburettors must answer certain characteristics, those in superheaters must suit definite conditions. In the carburettors you need three classes of material, one of upper, one for middle and one for lower section. From a chemical standpoint the brick are to be nearly neutral in composition, by which we mean the silica to run about 15 or 20 per cent. higher than alumina. It is understood that brick is to be free from impurities, especially iron, as from a physical standpoint the bricks are to withstand a temperature of not less than 2,600° F.; be made to resist the penetration of oil which refers particularly to the upper section of the carburettor. Further, they must easily take on the expansion and contraction which are encountered in this part of the vessel. A brick made with a dense outside surface and a loose grain interior will answer this purpose. In the middle portion of the apparatus the brick must be made stronger as it will break up if too loose in structure. In the lower portion of the apparatus the brick must be open-grained and very strong to resist pressure and changes of temperature. The brick in the superheater can be of the same class as specified for the lower portion of the carburettor. Generator linings again require a specific class of material. They must be made to resist clinkers, high heat, changes of temperature, etc., and much depends upon the design of this apparatus. Some gas companies test brick by heating it to redness, then plunging into cold water; this is rather a severe test but not satisfactory. The brick act entirely different in the apparatus. Their properties are changed after being worked for a certain period. The material only receives fair test after tryout in the machine. By breaking a brick it is easily examined as to proper structure and cleanliness. The sagger or flint grog grains must be fairly large and the binding tough, no iron spots or granules should show up. Gas companies when ordering should submit specifications and give location where brick are to be used. The brick manufacturer will then make his material to conform with the conditions encountered in these parts of the machines.

The President—Anything more on this question about the firebrick? The following question probably can be easily answered:

"What is the custom of the various gas companies here represented in regard to the answering of fire alarms; day or night?"

Mr. Barnum, what is your custom?

Mr. Barnum—We have an arrangement with the chief of the fire department as to certain boxes which they give us. We have men from the works, day and night, who respond to those boxes. With other boxes, if they want us, the assistant chief has it in charge and telephones us.

The President—Mr. Secretary, what is your arrangement about answering fire alarms?

The Secretary—I think we have one man at the office (a fitter or testing man, who has been with the company a long time) who is supposed to go to nearly all fires. The head lineman is also supposed to go. I myself belong to the Protective Society of the city and am supposed to go to a certain number of fires. I don't always do it, though.

The President—Mr. Nute, what is your custom?

Mr. Nute—We have the city districted and one man is assigned to a certain number of boxes. When the bells ring the man counts the box, and if it is in his assignment he is detailed for that box day or night. One of our men is always supposed to be at the fire and is generally one of the first ones on the ground.

The President—Our own custom is as follows: In Manchester we have a volunteer fire department. Several of our men belong to it, who answer all fire alarms. So, of course, someone is on the ground shortly after a fire occurs. The gas is turned off at the discretion of the chief of the fire department.

Mr. Anderson—I should like to inquire from Mr. Nute what means he has of calling his men to the box. Does he have a tapper in his house, or does he depend on the general alarm outside for a call? He would be apt to miss alarms, I should think, if he did not have something.

Mr. Nute—We answer only bell alarms. We are not supposed to know anything about the still alarms.

The President—Our men have tappers in their own houses, so that they get still as well as bell alarms. Is there anything further on that question? Next, we have this question:

"Is it legal for a gas company to shut off gas and remove meters from a building that may be on fire, where tenants may be packing valuables to make a hurried departure?"

Who wants to answer this question? Have we any attorneys of the gas companies here? No one seems to want to assume the responsibility of answering.

Mr. Stetson—A law is now before our Legislature, or it has been introduced, that there shall be a shut-off at the outside of the building at every service. The objection to that law is the last thing the firemen want to put out is the light inside. In our case they want the lights to burn while they are at work. If a shut-off was made under the conditions you have suggested, and under the conditions of the firemen's work, I think it would be an unfortunate thing, not only the cause of the shut-off, but the absolute work of it would be unfortunate. So I think you had better let the meter go if you can't get at it on a general plan, rather than to have it pulled too quick, or rather than have this law operative that would shut it out outside, which might result unfortunately.

Mr. Barnes—For the information of Mr. Stetson and also those assembled here, the law which he speaks of stands no chance of passage this year. The committee reported "Leave to withdraw."

Mr. Stetson—We ought to be thankful for that.

Mr. Barnes—I would say that in Cambridge, in the case of fires, our men report immediately to the department chief in charge, and follow his instructions in regard to the shutting off of gas.

The President—That is a very good arrangement. The next question:

"What can fireless cookers do for the gas range?"

Mr. Anderson, can you answer that question.

Mr. Anderson—I suppose the gas stove could furnish the heat for cooking the H_2O that would be used for the fireless cookers.

The President—The question is the other way:

"What can fireless cookers do for the gas range?"

Mr. Anderson—I understood it the other way.

The President—No question but the gas range can start the fireless cooker going. It is almost time for adjournment, before which I think the Secretary has a few announcements to make.

The Secretary—Those who want to get duplicate copies of the bound volumes of the proceedings of the Association can do so under certain conditions. There are a few of the official badges for sale. The annual dinner of the Association will occur at 6:30 in this hotel tonight. I will, if I may, while I have you here, add to the correspondence a letter which has just been sent in, dated San Francisco, February 11. The first part is financial, so perhaps I may not need to read it. The rest is:

"My Dear Mr. Gifford: I have not attended a meeting of the dear old New England for 18 years, and I prize my membership, as it was the first Association I joined, it must be over 30 years ago, as I joined the American Gas Light Association in 1879.

"I miss the old, familiar faces of my New England friends, and I am filled with sorrow as I look over the list of pioneers who have passed to the other side. God bless them, their memory is very dear to me. Please convey to my friends in the Association a greeting from the West and my best wishes for a successful 39th Annual Meeting. I shall strive to attend your 40th birthday party next February. The gas business of the Pacific Coast is in good condition. Our abundant supply of oil has been a boon to us and has developed a new oil gas process where the lampblack is made into briquettes and converted into water gas. There is nothing produced but gas.

"With very kindest regards, I am fraternally yours,

"E. C. Jones."

The President—We will stand adjourned until 2:30 this afternoon. Two of the papers will be helped out with lantern slides, and they will be very interesting. I hope you will get here promptly.

(To be Continued.)

[OFFICIAL REPORT.—Continued from Page 544.]

PROCEEDINGS, FIRST ANNUAL MEETING, SOUTHERN GAS ASSOCIATION.

HELD IN THE CLAYPOOL HOTEL, NEW ORLEANS, LA., Feb. 18, 19 and 20.

FIRST DAY—MORNING SESSION.

The President—We should now take up the regular order of business, which will be

THE ROLL CALL.

Members.

Brown, J. C.	Huntting, J. R.	Mauser, O.
Case, A. A.	Ingle, J. P.	Nelson, F., Jr.
Congdon, R. C.	Kahn, B. B.	Osbourne, E. M.
Day, V. B.	Kellum, B. J.	Parker, J. F.
Dexter, MacD.	Marshall, W. D.	Plumb, F. W.
Dunbar, C. H.	Martin, A. W.	Priest, G. H.
Ferrier, J.	Mason, A.	Pullen, J. T.
Ford, W. B.	Miller, T. D.	Redding, R. M.
Fritch, C. H.	Miller, W. B.	Rushin, J. C.
Frund, H. W.	Mitchell, D. B.	Weadley, W. F.
Greenland, S. W.	Moore, H. M.	Wolford, G. W.
Hagerty, J. H.	Moses, F. D.	Young, L. N.
Holmes, A. G.		

Visitors.

Andrews, T. F.	Halm, F. D.	Schofield, D. L.
Bartow, A. T.	Gribbel, W. S.	Wadelton, C. H.
Borden, F.	Mueller, A.	

The President—The next order of business is reading the minutes of the last meeting. I will entertain a motion that we adopt the minutes as published in the AMERICAN GAS LIGHT JOURNAL. [Seconded and carried.] I would suggest that the Secretary and the Treasurer's report, and that of the Executive Committee also, be postponed until our next session. Of course, all this order of business was jumped to the President's address. We now come to papers and discussions. I would, however, like to announce right here that Mr. R. M. Redding, is Chairman of the Entertainment Committee, and that with some assistance he will look after the arrangements for the tickets for the banquet, which will be ready by the time the session closes. The Committee must know just as soon as possible how many plates to order, and I will be obliged to you if you will promptly interview the gentleman in regard to it. I have appointed Mr. F. G. Dean as Chairman of the Committee on New Members. Now we come to the reading of papers. I will call on Mr. James Ferrier to read his paper on

COMPETITION AND REGULATION.

In the present stage of the commercial development of our country few things are more remarkable than the attitude of the people, or, we might say, the government, towards corporations. Were an inhabitant of Mars to visit this portion of our planet at the present time he might, on his return, report as follows: "Some of the things known as corporations were being punished for competing with their fellows and destroying them; others were being punished for not competing and suffering one another to live."

Competition, defined as "the act of seeking or endeavoring to gain what another is endeavoring to gain at the same time," is popularly believed to be a *sine qua non* in the commercial world to secure the benefit of the individual and to promote the greatest good of the greatest number. To question this belief, or to say that competition when it passes a certain line ceases to be a public benefit, usually elicits the reply: "You are a Socialist;" and that is supposed to end the argument. We shall see.

However cumbrous we may deem the legislation, however ill-advised we may consider the legal proceedings that might have prompted the supposed remark of the man of Mars, a little study will enable us to discern that the object of the hunt, the quarry, is monopoly. Monopoly, or more correctly speaking, unrestricted monopoly, is opposed to a government by the people and for the people. If an individual, a corporation or a syndicate obtains control of the production, or the importation of any article that has become a necessity of civilized life, he or it assumes the power of taxation which, in a popular government, is to be exercised by the duly elected representatives of the people, and by them only. The government, then, to prevent usurpation of its functions by others, claims the right to control and regulate the business of the aforesaid individual, corporation or syndicate and to set limits to their power.

Restricted monopoly, however, has not been regarded as inexpedient in civilized communities. Patents are restricted monopolies, restricted usually as to their duration, while unrestricted as to the royalties the patentees may charge. Where, however, the monopoly involves works or construction of a permanent nature, restriction has usually been directed towards the prices that may be charged or the profits that may be made.

But while acknowledging that unrestricted monopoly may be antagonistic to popular government or public benefit, the inquiry is permissible. "Is unlimited competition an unmixed benefit?" We may find the answer in crowded cities, some of them even in our own country, and in the crowded countries of Asia. So keen becomes the competition, so many are engaged in the "act of seeking, etc.," that the individual, to obtain the object of his desires, offers often his vitality as well as his energy. Then the inequalities of the community become accentuated, the strong become stronger, the weak grow weaker, and the result is a weakened and enervated nation, the prey of its stronger neighbors. As a matter of fact, our government acknowledges the inexpediency of unrestricted competition by professing, although questionably accomplishing the protection of its workmen against the "pauper labor" of other countries. So we may deduce the principle: "That, whenever competition is so intense as to result in the insufficient nourishment of the individual, it is no longer beneficial to the body politic, and tends to produce the same evils as unrestricted monopoly." In point of fact, monopoly, if not given by consent, springs from the impotence, the disunion of the people at large.

Applying this principle to corporations, which are neither more nor less than aggregations of individuals, we conclude that where competition is such as to preclude proper maintenance of plant and reasonable return on the investment, the inevitable result will be combination as a means of self-preservation, or the extinction of the many, and the survival of the few; in both cases practically monopoly, and in both cases inviting the interference of the government. Governmental interference in such cases takes one of two forms. Enforced dissolution of the combination, to be speedily followed by the second phase of monopoly; or regulation of the rates to be charged, or the profits to be made, in which case it matters little to the public whether the corporations be few or many. From which considerations we are enabled to enunciate another rule, to wit: That, when government assumes the right of regulation, competition is no longer essential to the safeguarding of the rights of the public. Conceding this, proceedings to prevent mergers, or consolidations, where the right of regulation is already claimed, seem unnecessary and absurd, seeing that such consolidations inevitably tend toward specialization and economy of production.

Applying the rules set forth in our own gas industry, we must admit that, to a certain extent, it is a monopoly, although by no means to the extent that agitators (generally with an axe to grind) would have the public believe Most of us have had some experience of ruinous competition. It has been said that the difference between a gas company and a grocer is that one delivers his goods under the surface of the street, the other above that surface. This is true; but it is not the whole truth. An unlimited number of companies cannot be permitted to occupy and excavate the streets, and if limitation in number needs be, it is better and more beneficial to the community served to limit to one corporation. If we concede monopoly, or the inexpediency of competition, we concede, at the same time, the right of regulation. But this brings us to the crux of the question. "By whom should this regulation be exercised, and what form should it take?" I will not try, within the limits of this paper, to answer the latter part of this question. It has been said that a franchise is virtually a contract between the community served and the corporation, in which the latter undertakes to render an efficient service, and the community, in return for same, undertakes to allow a just compensation. If this be true it argues the necessity for a tribunal to decide whether or not this contract is being carried out by either party. But who or what should this tribunal be? Certainly neither the particular community served nor the corporation itself, for that would be neither more nor less than *ex parte* judgment, the antithesis of justice. Such rights have, unfortunately, in many instances been left to the particular community, as represented by municipal councils, with what baneful results the frequent prosecutions for venality and bribery will testify. If we concede the right of regulation, we at the same time have the right to demand a tribunal free from the slightest taint of interest, as far removed as possible from the influence of public clamor or local bias. The members of this tribunal should not be appointed, even by the popular vote of the community served; and, although some right of removal might be reserved, it should be ge-

erally understood that the appointment was *ad vitam aut culpam*. Officials elected by direct popular vote represent the present only; a well constituted tribunal represents the past, the present and the future. It is a noteworthy fact that gas is now being sold cheapest in the localities where competition of gas with gas is totally eliminated and efficient regulation exists; and the causes for such conditions are not far to seek. While the rights of the community are conserved, the corporation is under the aegis of the law, and is immune to the attacks of the spouting or the scribbling demagogue. Safety of the investment is thus secured and the capital necessary for efficient and economical service is thereby invited on easy terms, resulting in reduced rates. The fact that 3 per cent. debentures of some British gas companies sold last December at 86 may be opportunely stated here. I have no hesitation in saying that wherever municipal councils have the right to control public service corporations, as regards either duration of franchise or regulation of rates, such powers should be immediately taken from them and placed in the hands of disinterested and non-local commissions.

Objection has been made to State Commissions, as at present constituted, in that they combine legislative, judicial and executive functions, and the objection is undoubtedly valid. As a matter of fact, the question whether a certain railroad commission was a legislative or judicial body has already caused dissent in the highest court of the country; but how to meet such objections is the question before us. Certainly we shall not obtain our object by bluntly opposing ourselves to the State Commissions. Moses could not give the Israelites a perfect law, so he gave them the best they would take. We cannot at present obtain perfect tribunals, so let us take what we have and try to improve them. I think our first effort should be to obtain commissions appointed along the lines I have indicated. Then let us come before them with clean hands and, man-to-man, ask for neither more nor less than justlce.

I will conclude by pointing out certain grave injustices towards corporations permitted by our laws as they now stand, and the correction of which might well occupy some of our State Commissions. Let me say that I am speaking, of knowledge, of my own State, Georgia, only; but I believe similar laws exist in most States embraced by this Association. First, as to the privileges accorded to municipalities. It has not been an infrequent happening that a municipality has allowed, or even induced, a corporation to come among them, to undertake the expense of organization and the raising of the necessary capital to start the enterprise, to go through the experimental stages of the business and the hazards therein involved, to drum up the business necessary to make the undertaking profitable, and then, when the corporation begins to make a profit, it (the municipality) does not see why it should pay a profit and proposes to build a plant of its own. In plain words it proposes to confiscate the fruits of the corporation's expense, experience and enterprise and the law allows it. No municipality should be allowed to build a competing plant until it first offers to take over the plant of the existing corporation by arbitration, and the earning power of the corporation should be a prime factor in fixing its value. This is the practice in Great Britain at the present day.

Then, again, there is the immunity from taxation enjoyed by municipal enterprises. Suppose the city of A——, in Georgia, sees fit to purchase its gas company. It is then relieved of not only its city tax but of all State and county taxes, including franchise tax. Thus everyone in the county at large and the State at large must pay more taxes because, forsooth! the gas consumers in A—— want their gas at a little lower price. Comment is superfluous. I say that municipalities when they are allowed to issue reports (most of them totally unsupported) of their operating expenses, are virtually, if not actually, competing with the corporations and should not be permitted to do so except on equal terms, and that such immunities should be at once swept away. The State Commission should be empowered to require every corporation and every municipality operating a public utility within its jurisdiction to conform to a standard system of accounts, in which city, State and county taxes should be part of the operating expense, and should also require every municipality and corporation to file with them, yearly, a report by a certified auditor, and one by a certified engineer. Then, when we know that accounts are being properly kept and plant kept up to the standard, it will be time to institute comparisons. Until this is done a most unfair competition is permitted. I may be speaking to some present who represent municipalities, and if so, I appeal to them for answer as to whether or not I am asking for more than justice to the corporations.

Corporations have the right to expect that, where the government assumes the right to regulate and to dictate the prices to be charged and the profits legally permissible, it should approach the subject with great caution and with the strictest regard for the canons of justice. Even where doubt exists the corporation, like the accused, should have the benefit. Unfortunately it cannot be said that recent decisions in our highest courts fulfill these reasonable expectations. It has been decided, as regards both railroads and gas companies, that should rates be imposed that are shown by the corporation's books and the testimony of experts to be non-remunerative, they should be tried experimentally before the courts should be appealed to. Were such decisions coupled with requirements that the corporation should be indemnified should the experiment prove disastrous, they might be said to show some evidence of impartiality; but, as the law stands, States cannot be sued or communities held responsible, so that, whatever the result, the public must be the gainer, while the corporation runs the risk of being a heavy loser. "Heads I win, tails you lose."

Then, again, it has been decided that when a corporation has a monopoly of an article in a certain district it has no right to capitalize the goodwill of its business. With all due respect to our courts, I maintain, and I believe I have demonstrated, that the right of regulation neutralizes any benefit that may be derived from actual or supposed monopoly, and when that right is once asserted a public service corporation has as much right as any other commercial undertaking to capitalize its goodwill or to liquidate over an extended period the expense of creating its business. As laws and decisions stand they must inevitably tend to cripple the service and to drive capital to seek investment in other countries where more enlightened government prevails.

What are we going to do about it? I feel as if I had led you to the edge of a battlefield and dared not proceed further; but I believe I have made out a good case for concerted action, not simply by gas companies, but by all public service corporations. I have in other places advocated Public Service Protective Associations, with a view of distributing burdens and affording the weaker brethren equal protection with the stronger. As instancing the necessity for this, I may say that I know of a public service corporation, in a town of 25,000 population, which has recently been forced to expend $14,000 in a case before a State Commission, and the end is not yet. It is almost needless to say that by such Protective Associations I do not suggest anything of a secret order or vehmgericht, but an Association legally incorporated and legally conducted. They exist, I believe, in other countries, and I think the time has come when we should be making some inquiry regarding them.

Discussion.

The President pro tem. (Mr. Haggerty)—You have heard this very interesting paper by Mr. Ferrier. It is before you for discussion.

Mr. Moore—I am not a member of the Association, but I have had experience in legislation in the State of Texas, in that I am managing a plant in Austin, where we have municipal water and electric light plants, and where we also have a legislative session every two years. I thoroughly agree with the paper just read. During the last legislative session at Austin I was connected with legislation about local conditions. The tendency to regulation is strong, and, as the paper states, regulation is just, provided it is justly put into effect. I find the tendency heretofore has been to antagonize all classes of legislation regarding regulation. The result universally has been and is that you get radical laws instead of fair ones; but if you appeal to the reason of the men legislating for you, pointing out to them the dangers of the bills they introduce, and offer to them a compromise measure which is fair to both sides, you will almost invariably secure the passage of the compromise bill. The gentleman sitting next me has just passed through a proceeding of that kind. A bill was introduced into the Legislature of Texas providing against cutting off consumers. It was absolutely the most radical piece of legislation I have ever read. It provided that, in case of dispute between the consumer and the company, we must send a representative to the residence or place of business of the consumer and undertake to adjust the bill with him; then, if we could not arrive at an adjustment, it was our duty to ask him how much he thought he owed, and we were compelled to take, under that bill, what he thought he owed and litigate the balance. The man who introduced it was a fair-minded legislator. He had been in the Senate for years, and I have known him for 6 years. Going to him I pointed out that we could not collect enough money in that way to operate a plant. We proposed that he

should pass another bill instead, making the consumer pay our bill, whether correct or incorrect; that it was fair. So we substituted our bill in place of his. In fact, when we had drawn up the substitute, he wanted two or three amendments to it, so he got his stenographer into the committee room and dictated his amendments, and each amendment that he suggested I was glad to accept, because, in ignorance of the operation of plants like ours, every one of his amendments was on the side of the company instead of the consumer. Had we gone in to fight that bill without offering anything as a substitute for it, they would have passed the bill in the Senate, and it goes without saying it would have passed in the lower house, which is always more radical than the upper one, and the consumer could have gone on consuming gas each month by saying, "I think I owe you so much." It should be the policy of public utility corporations to concede proper regulation and then go in with the legislators and get bills passed that are fair to both sides. Many of them have said to me, "The trouble with corporations is they don't want any legislation." They say to us the railroads have fought every bill brought up to regulate them. We know that railroad men can hardly touch a legislature to-day with any degree of sympathy, and for that reason we have perhaps on the statute books of Texas laws that do not exist in any other State in the Union. This was the sixth session of the Legislature in which bills were introduced turning us over to the tender mercies of the municipality. We defeated the bill, and two years ago we had an amended bill passed that they would not allow us to make any rates, but would allow us 10 per cent. on our property. They then proposed to us a compromise measure on that. The only question is, where shall we put the power to regulate? We have no State Commission in Texas and no talk of it. I suggested to the Senator who talked to me that he put it in the courts and not in the hands of the city council. A State Commission, it strikes me, would be the better plan if properly selected; but the courts of the country are the best means of regulating what we should be allowed to collect. The city council would be directly interested on account of being the representatives of the people to whom we are selling our product. Personally, I favor regulation for a great many reasons, but the main reason is, if we are regulated by a fair body – either the courts or a State Commission—we are in a position to stand on the bills and can insist on payments or a discontinuance of a supply.

The President—We would like to hear from Mr. Osbourne.

Mr. Osbourne—I have only been engaged in representing a municipal plant about a year, but I have had some experience in fighting them a little longer time. It makes a fellow feel like carrying water on both shoulders. I think that where a municipal plant is carried out by a commission, which is put as far out of the range of politics as possible, and which permits the management to put into it the energy that a manager would put into the management of a corporation, that that sort of management succeeds. I know in Michigan, where I have had considerable experience in fighting an electric plant, the electric plant having been associated with the water, and drawing from the water to show earnings, and at the same time furnishing electric power and light for 5 cents a kilowatt, that, it was a pretty hard proposition to fight that municipal plant with 95-cent gas; but it had been done very successfully before I was there, while I was there, and since I have gone from there. I think the gas companies to-day are in better shape than they have ever been. We had one of the best electric plants there that I have ever had the pleasure of being in any way connected with, even though we were fighting it.

Mr. Dunbar—In my short experience with the Texas Legislature nothing else impressed me so much as the fairness of these legislatures, that I had been told and had heard about as being so unfairly radical. The man who introduced this vicious bill convinced me and the rest of us that he wanted to be absolutely fair, and I think he was absolutely fair. He heard about extortion on account of our bills being as big as they were, and he wanted this explained, saying there must be something rotten, and he proposed this vicious bill. When we told him it was simply a question of meters and we were perfectly willing to stand back of our meters, he was astounded. He did not believe any corporation would stand back of its meters; he believed they were all crooked, and we did not want them investigated. We put in a compromise bill to establish a meter inspection bureau for electricity, gas and water. Astonished that we wanted such a bill, they accepted it without argument, and the original radical bill was destroyed then and there. This proves that when these matters come up we should get together and see these people. If only one man had gone to the legislature those senators and legislators would have said, "Here is a pretty slick article; but he hasn't much support." The other fellows should go with him to make a quorum. Let one man do the talking, if the rest can't talk. It makes a wonderful impression if they are together; there is no question in the world about it. The quarters from which opposition to fair regulation can spring are only two. The first type—I don't think there are many and I don't represent one—is the company capitalized three or four times beyond its plant value. That company is in pretty bad shape when it tries to make a showing. Insisting on paying dividends on quadruple capitalization, it has to figure better than I can to defend its position. I won't attempt to do it. The other type is that which permits the city or town to get so far ahead of it, or which lets its plant get so far behind the standard, that it cannot serve the public at a paying price—cannot make gas as cheaply as it should. I am also glad to say I do not represent a plant in that condition. I represent one that is fair; whose capitalization I can defend, for it is proper, correct and just. We have an up-to-date plant, and no other city in the South besides mine can make gas or sell it any cheaper that I can. Most of us, in order to pay any dividends at all, are very apt to forget the deterioration and maintenance charges, and bad debt account, too. We are so anxious to make a showing and enable our directors to declare a dividend. We have a hard enough time as it is to make that. I don't think we need have any fear of regulation. The other two types of companies which I have spoken of have reason to fear, and they will probably be up against it sooner or later if they do not reform.

Mr. E. D. Brewer—Great pleasure and profit have been mine in the perusal of Mr. Ferrier's able paper. I regret I can't be present to congratulate him on its delivery. His remarks have prompted within me a desire for more knowledge, and I would ask the following questions. Is it not a fact that really good corporations are punished by ill-advised legislation, mainly on account of the plain people being ignorant or misinformed as to the manner in which these corporations conduct their business? Isn't it a fact that the plain people hear only one side of the case until the day the matter is taken up in court or by the Railroad Commission? Isn't it a fact that corporations hold to the policy of suffering all criticisms, whether deserved or not, in silence? And don't the people interpret this silence as a confession of guilt? "Now, as you are a Roman, tell me true." Where does the mass get its information? Doesn't it get it mainly through the newspapers? To my mind nothing is more democratic than the daily newspaper. It is up in the cold gray dawn with the scrub-woman, and comes down-town at 9:30 with the bankers. It goes to the home of every family along your gas mains between 5 and 7 o'clock in the evening, and is still on the streets when theaters are closing. Nobody lives through a week without the newspaper, and few in the rural districts live without it a day. Its universal distribution, with marvelous rapidity of publication, makes the daily paper a force in advertising that has no counterpart. Nothing can withstand its tremendous power, its capacity for hitting widely, hitting quickly, hitting everyone and hitting repeatedly. Are not the plain people, after all, our judges? Mr. Dooley remarks, "Even the Supreme Court keeps its ear to the ground to hear what the people say." If you admit that the newspaper is the medium through and by which the evidence goes to our judges, the plain people, can you tell me why in the name of common horse-sense do corporations hold back their evidence until public sentiment cyrstallizes against them and then makes an eloquent but tardy appeal in legal lore that the plain people cannot understand and the Supreme Court disregards? Don't you believe in the fairness of the American people? Don't you believe that, if corporations made it a point to tell their stories in plain words, giving a chapter day-by-day in the local daily newspapers, getting their evidence in along with the news stories of the day, and living up to their printed platforms, don't you believe that the people would come to appreciate the corporations and that the problem of competition and regulation would be as simple as getting the index of a gas meter?

Mr. H. M. Moore—It seems to me some of these questions might be answered. The first, "Is it not a fact that a really good corporation sometimes is punished by ill-advised legislation on account of the people being misinformed about the way corporations conduct their business?" I will answer, "No, it is not due to that; but rather to the corporation that does not treat the people fairly." It is that which brings about such legislation as I spoke of a few moments ago. A corporation that will enter a man's house to remove his service, regardless of everything, and refuses to accept payment of the bill at the time it is going to remove the meter or disconnect the water supply, is the one that causes it. I believe plain people are more easily

satisfied with good service, and a little politeness mixed in, than they are in any other way. The next question is, "Isn't it a fact that the plain people hear only one side of the case until the day the matter is taken up in court or by the Railroad Commission?" I presume your Railroad Commission regulates them all right?

Mr. Ferrier—Yes, sir.

Mr. Moore—There is a great deal of truth here. The plain people, as a rule, will not ask for an explanation why the bill is so large, or anything of the kind. They just simply assume you are mistreating them, because they don't know why the bill has increased this month over last month, or anything of the kind. The third question is, "Isn't it a fact that corporations hold to the policy of suffering all criticisms, whether deserved or not, in silence? And don't the people interpret this silence as a confession of guilt?" I believe they do. I believe it is policy to keep silent. I know of a paper in Austin that for three solid months had an attack on the Company I represent, without any reason. I saw what the man meant and was after, and I never answered it. Knowing of his standing in the city, I did not think it did us any harm. Now, as to the next question, "Where does the mass get its information?" I think most of the information the masses get is through people who make statements that are unanswered, or statements that often do not reach the ears of the company, which, if unanswered, are accepted as a fact. The fourth question, "Are not the people after all our judges?" Mr. Dooley remarks, "Even the Supreme Court keeps its ear to the ground to hear what the people say." No, I don't believe they are. They don't undertake to judge. The masses of the plain people, or just a few plain people, with a little influence will get the ear of the legislator and ask him to introduce a particular bill. He does it to please his constituent, who has a vote perhaps, and perhaps a number that he can influence. We have a case in our Legislature right now of a man who had a bill introduced to affect every corporation using a steam boiler. The next question is, "Don't you believe in the fairness of the American people?" I do, absolutely. When you come in contact with the plain people and will treat them as they should be treated, you will always find them fair. "Don't you believe that if corporations made it a point to tell their stories in plain words—giving a chapter day by day in the local daily newspaper—getting their evidence in along with the news stories of the day and living up to their printed platforms—now, honestly, don't you believe that the people would come to appreciate the corporations, and that the problem of rates and regulations would be as simple as getting the index of a gas meter?" Two years ago, at a meeting of the Southwestern Electrical and Gas Association, I read a paper on the subject of how to educate the legislator, and all through my paper I took the position that if we could educate the people, letting them know exactly what we have been doing and that we intended to deal with them as fair minded, honest people, they would treat us in the same manner.

Mr. Huntting—It is a little bit like begging the question, this going aside in the way we have on this subject. I believe in regulation and obtaining it as our friends in Texas have obtained it. But while we are waiting for that regulation let us regulate it ourselves, and we can answer a whole lot of these questions immediately in each of our individual plants, and prepare the legislator's mind. It is easier to handle the people than it is the legislator, and if we have the people behind us we need not care where the legislator stands, as far as it is a question between the gas companies or public utility companies and the legislator, because the people will settle the question for us. If they are with us, then we have those men in our pockets without any more expense to them than their vote. Then, let us get to the people. When we have a high bill against them go to them before they come to us. That is our practice. Our bookkeepers are instructed to notify our new business department of any unreasonable rise in a bill, after they have read it, and we then go to them at once, before they have a chance to come to us, to find out the cause, and, 9 times out of 10 we find the cause within the house before they do. We state the case to them, and show them where they could have prevented this rise in the bill, and how they can be more economical with their gas. If we did not do that, by the time they had gotten to us they would have made up their minds that they had been abused, and would have told 100 different people of the circumstances arising in their house. A case like this arose when I first went to Chattanooga. A Pullman conductor had a bill much higher than it should have been, and on his way from Chattanooga to New Orleans, or the reverse—he runs between the two cities—in the smoking compartment of a dining car he told his trouble. In that same car was another customer of the Chattanooga Gas Company, who hadn't thought about his bill for a year; but he went home and found that his bill was too high because he had heard how high the conductor's was. Then I had both men's trouble to settle. Even a third man, a business man in our city, also found that his bill was too high, when they all compared notes. Now, if we had gotten hold of this Pullman conductor immediately he would not have told his story to his friends, but we did not hear of the story until we heard it from the other parties to whom he told it on the train. I am glad to say we settled their complaints satisfactorily, but we do not know how much harm that did us. When it comes to the point that there seems need of regulation of some kind—the legislators go to the capital to do something for some one, or for the people whom they love so well—the people will say, if you are going to do the gas companies, do them right; they are our best friends; they do more and give us more for the money that we pay than any other corporation or private individual. We make the people our friends in that way and we keep them. If you get the people to come your way, then it is better than a solicitor. They will do more for you than any man you can hire per day or per month, to give you business.

The Secretary—I will try to answer some of the questions Mr. Brewer was good enough to ask. He says, "Mr. Dooley remarks, even the Supreme Court keeps it ear to the ground to hear what the people say." That is a serious saying and, unfortunately, we have too much evidence of it being true. I remarked in my paper about how a court should be constituted; that it should not represent the present only, but the past, present and future, if it is going to be a court at all. That is how courts should be. As to newspapers, I do not believe they would blackball any gas company if they did not think it was pleasing to the public. The prejudice commences with the public, and it often results from the way a customer is treated when he goes to the office. A snappish man behind the counter is enough to start a controversy, and the next thing it gets into the newspapers. That is where the trouble starts. So much for newspapers. Getting right down to the consumer, I believe in meeting him man to man, and doing the same thing with the State Commission. I have already had experience with one State Commission, and I can say, from experience, the way to do with them is to conceal nothing. Tell them, "Here is my record; if I have done anything wrong, condemn it." That is the way to approach them. One thing I want to impress upon everyone by this paper, is: Regulation is here to stay. We have to get the right kind of regulation. That is what we have to fight for. There is no use in saying, abolish commissions. They are here, and they are a great deal better judges of what are our rights and of what we are doing than the man on the street. They can have the records before them, so as to know what everyone is doing and what is fair treatment towards a corporation. I say, not only with the public, but with those appointed to be our judges, we must come before them with clean hands. As Mr. Dunbar said: "None of your overcapitalization," you may expect to have that condemned, and it should be. Another thing that I had to bring out in this paper, and I hope I have done it, is, concerning this outcry about stifling competition. There is a great deal of nonsense in it. Competition is not the panacea that some people say it is. And rather than have an endless competition of one company starting after another, I prefer efficient regulation by a body empowered to see that justice is done by both the people and the corporations. I think I have answered all the questions that have come up.

Mr. Frund—I have interestedly heard these remarks about Commissions and regulations. It should be apparent to us all that this is a question which should have been settled years ago, and that the proper way to get rid of the annoyance of municipal officers and other officers or Commissioners is through a Board of Regulation. Years ago this was undertaken. Why is it there is no progress made? What prospects have we for a State Commission? At a meeting I just came from in Michigan about 18 companies were represented, and it was the consensus of opinion that the time had come when it was very difficult to obtain new money for extensive work by public service corporations, unless there was something done by which the consumer and the company could be brought closer together than at the present time. Mr. Huntting made a remark as to how that feeling could be brought about. I agree with him in a measure; but what are you going to do in a municipal corporation where a few aldermen have axes to grind, and will go out in a community and say they are paying three or four times as much as they are actually paying? You have that to contend with. You have officers levying taxes to contend with. All that has a tendency to poison the people. Until the time comes when we can get a fair-minded commission to whom to

show our books, instead of legislators who know nothing about our business, will we have any relief. Thus far Massachusetts is the one State that has accomplished this.

The President—What is the matter with New York?

Mr. Frund—No, sir; not yet, although they are leaning that way. In Massachusetts you are safe in putting your money in a gas company or railroad, where you are not in any other State. The right proposition is to allow Commissiops to be appointed for 5 years. In Indiana, Mr. Dunbar, of New Albany, and myself worked with the legislators to allow a commission to be appointed to regulate public corporations. No! For as from the time that law would have been enacted no more measures could be introduced to hold up corporations. Many and many a bill we have had to pigeonhole, that was never intended to be passed, but just introduced. And for that reason in Indiana you have no Commission, and I daresay that is the case in many other States. The thing is, how are you going to have a Commission appointed of representative men, to whom you will not be ashamed to show your books. I have worked with many corporations, but never have for one that was afraid to show its books to a legalized Commission. Last year my Company was raised $400,000 on property whose earnihg power would only justify a tax of $400,000, and then we were paying more taxes than the other largest taxpayer in the State. We had to appear before the Railroad Commission. We had railroad property and had to appear before them. We showed them in our investigations that it took to operate one railroad of a little over 4½ miles a generator of 300 kilowatts, and at best we could only operate 6 cars with that; that in the adjoining town, with the same apparatus the Company operated 21 cars, and their revenue from those cars was figured to be much greater than ours. After explaining to the Commission the reason why we had so much money tied up in railroad property, as against the other with 4 or 5 times the population, they understood that. We could appeal to those men, but we could not appeal to the aldermen of our city. I simply mention that to show when we get a regulating Commission with good men on it then and not till then will we get relief. I would not keep in office any person not civil to our customers. If they understand how to read and check a meter, ask them to make a test and compare with other meters. Let them come in as disinterested persons and do not take offence. It is to our interest to have accurate meters. After you talk with them on that line they go out of the office satisfied. They are sometimes poisoned by the newspapers and certain aldermen, that all of us have in our communities. We have been in business 30 years and there is no one who has tried to use more diplomacy than our Company in handling municipal affairs. In our town our advertising is quite large. The appropriation ran out in December for advertising, and we cut it off, and we got a hammer in less than 10 days. The result was a bill was introduced in the Senate of North Carolina regulating the inspection of meters, something that we wanted. We went to the Legislature and appealed to the legislator or the Committee that had the bill up not to go off at a tangent but to look up the laws of New York or Massachusetts, where there was no experimenting; that we wanted our meters inspected so as to create a better feeling between the customers and the Company; that we were all a bunch of clerks in the office anyway and did not own the Company, and that we wanted to treat the customers fairly. That we thought a measure of that kind properly passed would be a benefit to both the Company and the people as well. But, no; they passed a bill that was a farce, on its face. With a Commission, we would be rid of all that. There is no other way out that I can see. I can speak of several measures in Indiana and other States going to show how people are poisoned notwithstanding how much tact and diplomacy they use. We told a customer, "We cannot do business in this city if everybody in the city is running against us; we want to treat you right and do business with you." The only relief I know of is by a Commission. Why is it that in all these years we have been talking about Commissions we are not having them? It is because we can't have them. Try to introduce a measure to regulate companies, and to copy the laws of New York or Massachusetts, and see how quickly it is pigeonholed. I don't mean that every man who goes to the Legislature is a crook; but I want to say that my experience with legislators is that given 60 good men and 20 bad men, the 20 will regulate the 60 every time. How do they do it? I have seen the case where, in order to get something for their constituents, they had to shut their eyes and let it go. If a man is elected to Congress or anywhere else, it means a swapping of votes; scratch me and I will scratch you. That is why to-day we have a lot of bad laws on our books that are a farce; too many laws, in fact.

Mr. Congdon—I do not know whether we have an exceptionally just City Council in Atlanta, but the experience of our Company with it has certainly been satisfactory. There have been Aldermen and Councilmen, from time to time, who have had visions of 75-cent gas, regulations respecting meter testing, etc., but the Councilmen who have introduced these questions, and who have tried to get them voted on, have invariably been met with opposition by the majority of Council. Councilmen and Aldermen have repeatedly stated, "The gas people are the best people in town we have to deal with; so let them alone." This happy state of affairs has not been brought about during the last 2 or 3 years, but it has been due to the foresight, I believe, of the gas company through its entire history, realizing the wisdom of dealing with the people liberally, giving them good service, and particularly, looking into every little complaint, charging nothing for investigations, etc. We have in Georgia a Railroad Commission. This Commission had no authority over gas companies until Governor Smith was elected. He was instrumental in having jurisdiction extended so that it did take care of and control public utility corporations. Just as soon as this change was brought about, there was a Councilman, who, still having visions of 75-cent gas, said, "Here is our chance." He tried to get Council to pass resolution to appoint a Committee to go before the Railroad Commission and petition that the price of gas be reduced to 75 cents, and that a meter inspector be appointed, etc. The Council replied: "They are good people; let them alone." The matter was dropped by Council. The law, however, allows a single citizen to go before the Commission with any request he wishes granted. The one Councilman appeared before the Commission, and presented a copy of a report written by an engineering firm. This report was supposed to show that gas could be manufactured and sold at profit, for 70 cents per 1,000. I answered the report before the Commission, and that body decided to let us alone. So, up to the present, we have gone free. In Exhibit A of my paper, which I hope to read to-morrow, you will note that I have advertised that whenever the people of Atlanta will feel more confidence in a public meter inspector than they have in their gas company, we hope a meter inspector will be appointed.

A Member—I know of one place where the Council and the Company live happily together, but discriminations were made in Council's favor. Of course, I do not mean to imply that the Atlanta Council is improperly dealt with by the Company.

Mr. Congdon—Of course, there are no gas company bribes in Atlanta; no free gas, free car rides or the like given. We do not give away anything but prompt attention to complaints and all-around fair treatment. Just recently, when the Council was in session, one fellow made a last dying shot to get a meter inspector appointed, and the Mayor of the town told me it would have done our hearts good had we been back of the door to hear what was said. Nearly all of the gentlemen present had something good to say of the Gas Company.

Mr. Moore—We have never had the slightest trouble with the municipal authorities or the City Council. After April we have the Commission form of government.

The President—This is a subject I gave a good deal of attention to in Texas a number of years ago, and believe I can say that much that has been related here I have met with in my experience; but perhaps you did not notice about two lines in my address where I said that the success of a gas company was dependent upon the policy it followed, to make itself well liked and to inspire confidence in the people. Mr. Congdon has struck that. I have never yet interviewed a man in my office, here or in any other place that I have been, where you would put it up squarely to him, "Do you really believe that we are going to deliberately take advantage of you and render you a bill for gas that we do not believe we have given you according to meter regulation?" I have twice in my life had them say "I do." I have then told them, "My advice then to you is not to deal with us if you feel that way. I will frankly tell you I would not deal with you if I thought you were going to do such a thing." As a public servant I had to do it. Usually they have been good customers after that. Mr. Congdon's experience is such that, as he expresses it, whenever the people of Atlanta feel that they would have more confidence in a public inspector of meters than in an inspector employed by his Company, to go ahead and get it. You might however want a Commission or public inspector if you had the kind of Councils they have in England. In Atlanta they might say there is no need of it.

A Hymeneal Resolution.

Mr. Dean—I desire now to offer this resolution:

"*Resolved*, That the Southern Gas Association learns with great

pleasure that Mr. E. C. Beach, Manager of the Pulaski Gas Light Company, of Little Rock, Ark., is not in attendance at this meeting, owing to a previous engagement to be married. Be it further

"*Resolved*, that this Association congratulates Mr. Beach, and offers its prayer than Mr. Beach's attendance at that other Association may result as successfully as the Southern Gas Association, and that all members of this Association doff their hats at 6:15 to-night, and throw a kiss to the North as a salute to the bride. Be it further

"*Resolved*, That a copy of these resolutions be presented to the happy pair."

An adjournment until 10:30 A.M. of Friday was ordered.

(To be Continued.)

An Improved Retort Scurfer.

Bulletin No. 3, issued this month by the Improved Equipment Company, of 60 Wall street, New York, has for its subject an illustrated description of a device that is meeting with favor at the hands of gas men who have seen it. In fact it must well appeal to all live coal gas operators as a most practical method of taking care of the annoying operation of surfing which often figures as a feature of bench operation. The accomping illustrations show the scurfer and its application.

Fig. 1.

Fig. 1 shows the scurfer, complete. It consists of a cast iron body, equipped with brass valve for regulating the air supply; chain and hooks for attaching to mouthpiece, and a section of flexible steel hose for connecting to supply line. The scurfer is of such size that one man can easily adjust it to any retort. The various lengths of pipe required inside the retort can be old odds-and-ends of pipe usually found about the plant. One of these scurfers has sufficient capacity to take care of a plant operating up to 125 retorts. This scurfer can be operated where there is an air supply available equal to 10 ounces pressure per square inch or more.

Fig. 2 shows the scurfer attached to mouthpiece, ready for operation, method of connecting to air supply line, and location of supply line on the benches.

In many cases where it is desirable to burn out the carbon in standpipes the flexible, steel-hose can be disconnected from the scurfer. A suitable pipe is attached to

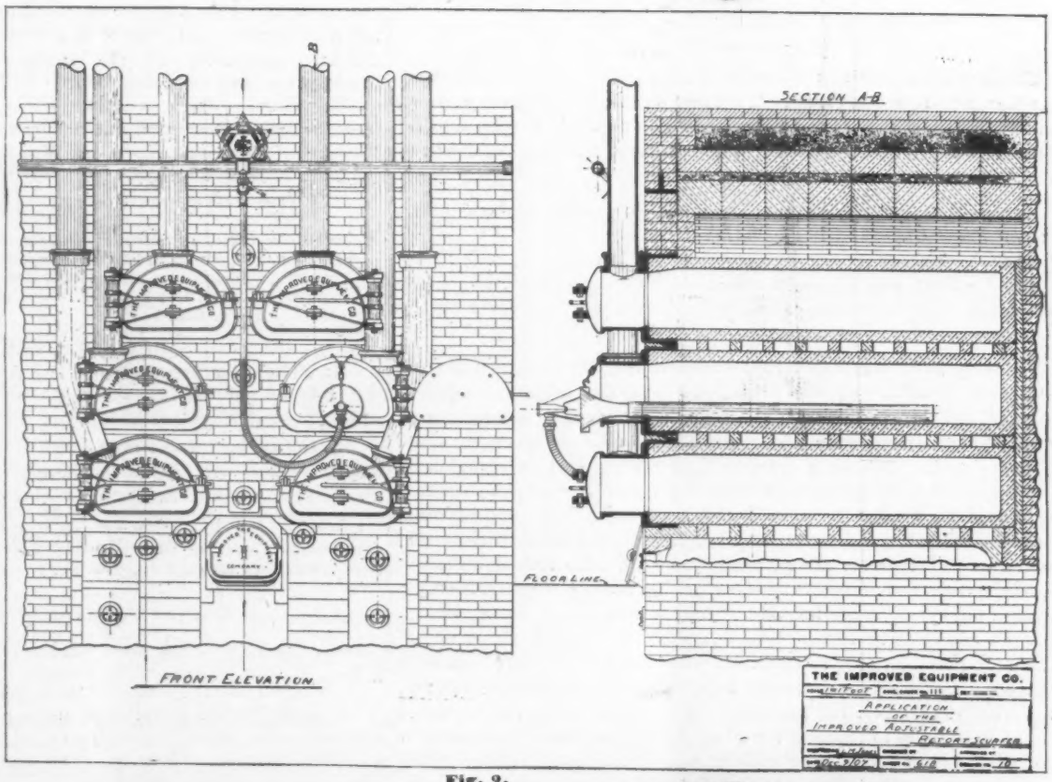


Fig. 2.

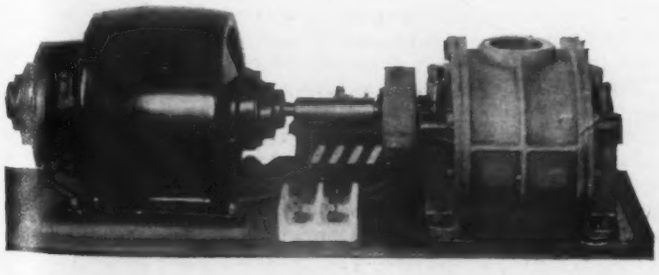


Fig. 3.

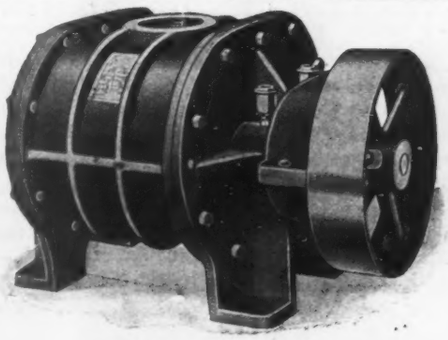


Fig. 4.

Fig. 5.

do this effectively, and the same applies to cleaning recuperator flues.

Fig. 3 illustrates a type of blower direct connected to an electric motor, and Fig. 4 a belt-driven blower, either of which can be installed when a suitable air supply is not at present available.

Fig. 5 displays a patented retort-collar for attaching mouthpieces to retorts, which appeals to us as a practical method of preventing loose and sagging mouthpieces.

The bulletin also contains other valuable data. Send for one.

[Communicated by "M."]

A Plaintive Note from a Limp String.

Under the heading of "Meter Shop Maintenance," in the JOURNAL for March 29th, a correspondent sounds a plaintive note on a somewhat frazzled string, to the effect that the meter is responsible for much of the gas man's trouble. The burden of his plaint seems to be of the 3-phase type:

First.—That the men employed by the gas company to repair meters are incompetent.

Second.—That State or city inspection is a farce.

Third.—That gas company officials do not appreciate that, while the meter may be correct at 6 feet per hour per light, or a testing rate, it is incorrect in actual service.

Probably more competent repair men could be obtained if the gas company cared to pay the price; but only the largest companies could afford this, as it really means paying the salary of a man competent to act as superintendent or foreman of a meter repair shop. The proposition to have a competent man employed in common by several companies is impracticable, if for no other reason than that he would be wanted in several places at once. Why not advocate and adopt the alternative proposed by "Reader" and send the meters to the manufacturer? He is, or should be, a man able to "design, repair, prove and improve meters in the most economical way." Judged fairly on its merits, the argument that it is to the interest of the gas company to repair its own meters has not a leg to stand on. The only possible prop is the claim that the gas company can do it cheaper. But does its cheapness recommend it? The manufacturer, with his experience, his facilities and trained force of men, is, or ought to be, able to repair meters better than the itinerant tinkers, or journeymen tinsmiths, who pose as competent repairers, and better even than a man taught to repair meters in the manufacturer's own shop.

To illustrate. In a certain meter shop, with which the writer is acquainted, the man who decides whether or not the diaphragms in the meter will stand to be re-oiled, or must be replaced, commands a salary for this, and other work, that can be afforded by none but the largest gas companies; and again, in the same shop a high-priced inspector passes on every valve and finds plenty to reject, although ground by experienced men, and as expert as the average small gas company could afford to employ as competent meter repairers.

Again, there is a decided advantage, which the largest gas companies who repair their own meters are beginning to appreciate, in having their meters repaired by the meter manufacturer. The manufacturer is *ex parte*. It is his business and to his interest to have the meters correct and accurate. The consumer is better satisfied if he knows that the meter was made or was ovehauled by someone not in the employ of the gas company whose gas it measures.

As to inspection by the city or State being a farce. Possibly it is, yet there is much to be said in its favor. Like the repairing of the meter by an interest independent of the gas company, it interpolates between the company and the consumer an authority to which the consumer may appeal if he feels that he is not being fairly treated, and tends, therefore, to produce that joy of the gas man—the satisfied consumer. There is no doubt, however, that meter inspection should be confined to the State, and the cities and towns prevented by State law from creating local inspectors which would be only a further and unnecessary tax.

In considering the third phase, let me call "Reader's" attention to the fact that the accuracy of the meter is changed not a whit by inspection, whether farcical or not. It is a fact that it is difficult to adjust any type of dry meter so that there will not be a slight difference in the proof of the meter when a small quantity is measured and when the meter is running at its full capacity, but if the meter is made as a meter should be, and proved and adjusted as it ought to be, this difference will be reduced to a minimum, and, between the testing speed and the open outlet, there will not be a difference of more than a fraction of 1 per cent. in registration.

Finally, by way of peroration, "Reader" coyly remarks he understands that a new meter will shortly be placed on the market superior to anything ever heard of before. Since the days when gas was first measured there have been rumors to this effect, and many have tried, although apparently no one has yet succeeded, in discrediting the work of John Malam, of sturdy "Tom." Glover, and of the veteran meter makers in this country. We have indeed improved on their designs so that they would hardly recognize their own handiwork; but the meter with the flexible diaphragm and with the slide valve has held its own, has come to be accepted, and is acknowledged as a standard appliance. He who would evolve something better must needs think hard and labor long.

Bureau of Information, The American Gas Institute.

Under the direction of the Institute it has been decreed: 1. That the privilege of submitting questions be limited to members of the Institute. 2. Neither the Board of Directors of this Institute, nor the Institute as a body, make themselves in any way responsible for the statements of fact or expressions of view given out by the Bureau of Information.

BUREAU OF INFORMATION, THE AMERICAN GAS INSTITUTE,
HEADQUARTERS, 1943 COMMERCIAL NATIONAL BANK BUILDING.
W. A. BAEHR, Chairman. CHICAGO, ILLS., April 3, 1909.

The following budget is to hand from Editor Baehr, under recent date. Readers will please note the change in Editor Baehr's headquarters, as given in the dating of this communication.

Question No. 48.—"What are the comparative merits in large companies of making meter repairs under a 'piece work schedule' as compared with strictly 'day work.'"

ANSWER BY BUREAU OF INFORMATION.

The superiority of the piece work system over the day work system may be summed up briefly as follows:

The piece work system permits the foreman to spend practically all the time inspecting the quality of the work performed, whereas the day work method requires constant vigilance to insure both quality and quantity of labor performed.

The piece work system increases the amount of work performed by each mechanic, as it is to his interest to study how to accomplish the work in the least time and in such a manner as to pass inspection.

The quality of the work in the piece work system is superior, as the mechanic knows that unsatisfactory work will be rejected, requiring him to expend additional time without remuneration.

The piece work system is to the advantage of the mechanic, as he derives remuneration in direct ratio to his efforts. As a result the mechanic tends to accomplish more and better work.

The control of labor is better with the piece work system.

The success of either system requires the same careful inspection to insure good work, but the mechanic is better satisfied and is able to

make a greater amount of money than he would by day work. The best men average about $25 per week, the poorer ones $12; whereas the average wage for day work would not exceed $3 per day.

The Bureau wishes to submit the following

ANSWERS-AT-LARGE

to the above question.

By Mr. Geo. Beadenkopf, Engineer, Consolidated Gas, Electric Light and Power Company, Baltimore, Md.—The important matter in making meter repairs, either by day work or piece work, is that all completed repair work should be subject to rigid inspection by the foreman of the shop or his assistant. Both systems are in use in the meter repair shops of this Company; but the piece work system is confined to the following classes of work:

"Putting in" (putting in diaphragms); "casing in" (putting on backs and fronts); "fitting and indexing" (grinding, setting and packing valves and replacing indexes).

All adjusting and proving are done by day work. No piece work is allowed on this character of work. Piece work is only permitted to be done by experienced workmen, and there is a limit put on the amount of work which a man is allowed to turn out under this system; for if he is allowed to do as much work as he possibly can it is apt to be slighted. Whenever any piece work is found defective it is made good by the workman at his own expense.

Our experience is that about 10 per cent. more work is turned out by a man working under the piece work system, and the work done is of as good a quality as that done by the day work system. The work itself is, therefore, no cheaper, but under the piece work system the output of the shop is increased without any additional force.

Under our piece work system we allow only meters of 10-light and under to be repaired. All meters over 10-light are done by day work, because, in the larger meters, the repair work is usually more difficult. The number of meters handled annually through the shop is from 20,000 to 25,000. The rates paid under the piece work system are as follows:

"Putting in," 12 cents per meter. (Average amount of work per man, per day, 18 to 22 jobs.)

"Casing in," 5 cents per meter. (Average amount of work per man, per day, 38 to 42 jobs.)

"Fitting and indexing," 16 cents per meter. (Average amount of work per man, per day, 15 to 18 jobs.)

The average rate of wages for a meter repairer is $2.50 per day, of 10 hours, and under the piece work system, a man can increase his wages to about $2.75 per day; all of his work, as stated above, being subject to a close inspection.

By Mr. Frank Hellen, Superintendent, Rochester (N. Y.) Railway and Light Co.—I believe that there are only two kinds of work in connection with meter repairing that can be done under a piece work schedule to advantage, and these are the soldering and re-soldering of the cases and the dipping of the meters. All other work relating to meter repairing I believe to be too important for piece work.

The oiling of diaphragms, the re-packing of stuffing boxes, and the grinding of valves, etc., are lines of work that can be very readily slighted, unless the inspection is especially rigid, which means more help for inspection.

I think there is no other work connected with the gas distribution as important as the first-class repairing of gas meters, and for this reason I believe it to be impossible to work out a satisfactory piece work schedule, at least this has been the experience of the writer.

By Mr. V. F. Dewey, Superintendent, Mfg. and Distribution, Detroit City Gas Company, Detroit, Mich.—In all work in connection with gas meters, two elements enter into the proper answer of this question.

First.—Quality.
Second.—Cost of work.

The piece work schedule will reduce the cost of meter repairs:

First.—By making it an incentive for the men to work more constantly.

Second.—To work faster.

Unfortunately, it also tends to make them slight the work. It is almost impossible to standardize the length of time that it takes to make different repairs, and without a complete standardization of repairs, in which the time taken to do each different item of repair work is noted, it would seem impossible to satisfactorily work out a piece work schedule.

In working men on a strictly day work plan, it is possible to more closely supervise the work; also to obtain more individuality on the part of the men. Men will be more careful in their work, and the question of the amount done will be secondary to the quality of the work done.

By W. K. Harrington, Gen'l Sup't, Meters, Consolidated Gas Company, of New York.—The men doing meter repairs in this Company have always been on piece work with the exception of the first 2 weeks when I took charge of the meter shop 12 years ago. Piece work seems to be much the best way to handle this class of work, as it gives a good man a chance to earn what he is capable to earn. Our best average about $25 per week, and the poorer ones $12 per week, the average being about $18 per week. We generally start men on day work at from $1.75 to $2 per day, and as soon as they are proficient are placed on piece work. With the piece work system it is only necessary to watch the quality of the work, but on the day work it is necessary to watch not only the quality of the work but the amount performed; and where the men are paid a varying rate of wages on day work, or receive a bonus for doing more work than a stipulated amount, it virtually amounts to piece work.

By E. J. Bartel, Sup't, Meter Repair Dept., The Brooklyn Union Gas Company.—Following is a report of prices paid by the meter repair department for repairing meters: Various shops have different systems of working, and pay for repairs at the rates of from $2.50 to $3 per day, and repair from 16 to 20 meters per week, including adjusts, oiled, and diaphragms.

From data collected, our method of piece work is less expensive and we get more meters for delivery. I, myself, approve piece work at our prices. We did have day's work at the Company's shops, but have changed the same to piece work.

Piece Work Repairing Meters.

	Sizes.							
	3	5	10	20	30	45	60	100
Adjusting	.42	0.44	0.58	1.05	1.32	1.49	1.71	2.31
Oiling	.66	0.75	0.97	1.49	1.93	2.15	2.26	3.14
Diaphragms	.99	1.02	1.19	1.90	2.26	2.31	2.53	4.51
Condemned	.22	0.28	0.30	0.42	0.47	0.58	0.69	1.16
Pipes	.06	0.07	0.13	0.19	Day's Work	D. W.	D. W.	D. W.
Bottoms	.22	0.28	0.33	D.W.	D. W.	D. W.	D. W.	D. W.
Cones	.05	0.05	0.06	0.06	0.10	0.10	0.10	0.10

Above 100 lights, day's work, at $2.50 to $2.75 per day; average per man, per week, 30 meters.

Day's Work.

Gasing	$1.75 to $2.00 per day,	80 to 100 meters.	
Toping	1.75 to 2.75	"	80 to 100 "
Proving, old style	2.50 to 2.75	"	40 to 44 "
Proving, automatic.	2.75	"	110 to 130 "
Painting	1.00 to 2.00	"	100 to 200 "

By B. H. Spangenberg, E. Orange, N. J.—The fact that shops manufacturing new meters are for the most part operated under the piece work system would lend weight to the argument that large meter repair shops should be similarly operated. The specializing of difierent parts of the work in all kinds of factories is a firmly established practice, and this specializing of the work has led inevitably to the piece work system or its equivalent.

Provided that proper inspection at each stage of the work is enforced, and also that a workman of fair average ability is *assured* of a fair average wage, the piece work system has the following decided advantages:

1. It weeds out the drones and inefficient men.
2. It assures a fair wage to the average workman.
3. It enables the workman of extra ability to earn, in proportion to his ability, more than the less efficient workman.
4. It stimulates the productive capacity of the men, and thus adds largely to the output, with a consequent reduction in the "fixed charges" portion of the cost per piece.
5. It invites workmen of the better class to apply for, and try to

hold, by the quality and quantity of their work, positions more profitable to them than those under the day work system.

I think these arguments for a piece work system are as applicable to a large meter repair shop as they are to any other line of manufacturing.

Question No. 43.—"Should a vent pipe be used on all small water heaters, such as the Lawson No. 1, in all cases? This heater is used to heat range boilers with the pressure on coil in heater and tank alike."

ANSWER TO QUESTION NO. 43, BY THE BUREAU OF INFORMATION.

This heater is one in which the water circulating through a copper coil is heated by a burner in the base. There is a deflecting cone in the center to throw heat around the coil. The outside casing is of Russia iron or brass. The consensus of opinion secured by the Bureau is that, for sanitary reasons, a vent pipe should always be used on such a heater.

On first lighting such a heater, imperfect combustion is brought about by the flame striking the cold coil. This is more quickly overcome by the force of draught produced by the flue connection. If a damper is installed in the flue connection, greater efficiency may be obtained by regulating same to draw in the proper amount of air for complete combustion.

While the foregoing comprises the majority of opinion of the Bureau of Information, it is only fair to say that the following comments were received from one of the members. The foregoing answer appeared to this member to be theoretically correct, but not practically so. He states it is known that it is not necessary to use a vent pipe on kitchen water heaters, and that it is not commonly done: and that if the gas company insists on adding this expense, it would hinder the sale of such heaters. It is also known that copper coil heaters give much less odor than the old-style, all-iron heater, and that their use without vent pipe, though theoretically incorrect, is not in practice undesirable. An instance is quoted of such a heater being in use without a vent pipe and its giving no odor whatever.

Finally, the Bureau in submitting its answer to this question, would state that, while the majority opinion appears to favor the connection, yet it would not advocate its use in practice, simply from its theoretical correctness, but would request each user of such heaters to give this question careful consideration and decide the case somewhat from the viewpoint of local conditions.

The Bureau wishes to submit the following Answer-at-Large, by H. N. Gillette, with Crane Company, of St. Louis, Mo.

ANSWER-AT-LARGE.

By Mr. H. N. Gillette.—Referring to Question No. 43, I wish to submit the following: The general consensus is that this type of heater should have a flue connection, especially the Lawson type, which employs a copper coil, as the action of the gas flame on the copper, it is claimed, creates a disagreeable odor. In the case of the "Ideal" heater, where cast iron plates are used, it has been found satisfactory to install without venting.

Items of Interest
FROM VARIOUS LOCALITIES.

MANAGER CHARMON, of the Quincy (Ills.) Gas, Electric and Heating Company, has been authorized to expend something like $25,000 this season on plant betterments. The main features of improvement in the gas division of the Company include new coal storage sheds and a large coke bin, 60 feet by 40 feet by 20 feet. This bin will be of the concrete type of construction. The trackage from the railroad to the Company's yards will be relaid in accordance with taking the best advantage possible of the contours of the site. It is also proposed to place 4 miles or more of mains in districts that have for some time been anxious to obtain a gas supply. A new steam plant, it should have been said, is in the listings. The 10-foot station meter, put in this winter, is working mightily, to the liking of Mr. Charmon, who in his estimatings always prefers the safe or figured side to any amount of guessing bees, whether as to weights or yields.—V.

IT is authoritatively stated, on the word of Mr. August Gehner, one of the Vice-Presidents of the Laclede Gas Light Company, of St. Louis, Mo., that Mr. Charles L. Holman, Vice-President and General Manager also of that corporation, is to be its Acting President, he having been authorized to carry out the instructions of the Board as if he were actually carrying on the duties of a legally-elected presiding officer. Our authority further states that it may even be a year before a successor to the late President, Mr. Beggs, is formally chosen. So far Mr. Holman and his colleagues have managed to make two moves that are very acceptable to the Company's customers—of course, other large companies have done both these things for years—the first of which is a special department, with an active head, to where all complainers and complaints are assigned for hearing. Another is the placing of a properly clad office man, who acts as an animated directory, in that each visitor entering the front door is informed as to the best way of reaching any official or division of the Company desired.

MR. A. M. SUTHERLAND, writing under date of the 3d inst., says: "We have just finished the new water gas set so much needed by the Bennington (Vt.) Company, and the people are delighted over the receiving and use of a 20-candle power water gas, especially so, remembering the long 2-year spell of greased wind that was their portion. We are now putting in a second set for the Pen Argyle (Pa.) Gas Company."

THE site for the proposed gas plant at Myerstown, Pa., has been selected. The Company in control is composed of Philadelphia capitalists, who have pretty well concealed themselves under the shadow of a representative named Hess. The exact name of the Company is the Myerstown Gas and Fuel Company, and there is little doubt that its plant will be constructed this summer.

A VERDICT in the case of Miss Maggie Hoyt against the Indianapolis (Ind.) Gas Company, tried a few days ago in the Circuit Court, before a jury and a special judge, awarded plaintiff damages in the sum of $850. The testimony showed that during the temporary absence of plaintiff from her home, a meter reader of the Company, unable to gain entrance in the usual way (and as the Company's inspectors frequently had done), opened a trap door which led to the basement. Having read the meter the inspector on leaving omitted to close the trap, and plaintiff, on her return home, towards dusk, fell through the open door and was badly shaken up.

WE are informed that the people who secured a franchise for the lighting of Bessemer, Mich., from a central station, have determined to construct an acetylene system of manufacture. Too bad.

WE are indebted to the courtesy of Mr. H. L. Griggs, Sales Manager of the Bristol Company, for a copy of its new Bulletin, No. 102, which neatly lists a large proportion of the Company's gauges for pressure and vacuum that are now on the market.

A UNIQUE figure in the gas history of New England passed away in the person of John Colton, who died at his home in William street, Providence, R. I., the afternoon of the 30th ult. Deceased, who was in his 81st year, had served the Providence Gas Company for over 40 years as night watchman at its South Station. Ten years or so ago, it is safe to say, he could name offhand the engineer in charge of every gas works in the New England States.

THE afternoon of the 1st inst., by direction of Chief Justice Clabaugh, of the District of Columbia Supreme Court, the jury which had been sitting in the trial, instituted by district authorities to recover $5,500 in penalties from the Washington and Georgetown Gas Light Companies for alleged violations of the legal requirements in regard to candle power and purity of gas, reaffirmed a verdict for defendants.

UNDER an agreement recently reached between the projectors of the Peaks Island (Me.) Gas Company and those of the Portland (Me.) Gas Company, the latter has been released from any requirement to supply the residents with gas, and the former will at once proceed to construct a water gas plant up to the gaseous needs of the Islanders at once. The cost of the construction is put at $30,000, which we believe also provides funds for a main system of perhaps 4 miles. This construction will supersede a plant of the acetylene type.

"O. R. M.," writing from Chicago under date of the 5th inst., says: "Mr. L. E. Roberts, for a number of years in the service of the Peoples Gas Light and Coke Company, in the capacity of Manager of one

of the Company's branch stores, passed away very suddenly, through an apoplectic stroke, the evening of the 30th ult. Deceased was esteemed and respected by everybody with whom he came in contact. The funeral services were held Friday, the 1st inst., under the auspices of Cleveland Lodge, No. 211, F. and A. M. A large attendance testified to the many who were anxious to pay their tribute of respect to the memory of their friend and associate. The floral contributions were numerous and beautiful, and the solemn service was soulfully rendered. It might be of interest to note that, prior to his entering the employment of the Peoples Company, deceased had been a passenger conductor on the Illinois Central Railroad; in fact, it was in that connection that he attracted the attention of the late Mr. Watkins, for many years the absolute owner of the old Chicago Gas Light and Coke Company."

THE Plattsmouth (Neb.) City Council has passed an ordinance ordering the local Gas Company to reduce its gross selling rate to $1.50 per 1,000 cubic feet. The existing rate is $2.10. Of course, the validity of the act will be contested in the court of last resort.

A CORRESPONDENT in Fort Wayne, Ind., writing under date of the 31st ult., incloses the following: "The plans of the proprietors of the Fort Wayne Gas Company to place a coal gas plant in operation, which would enable them to provide a gas plant as close to perfection as it is possible to erect, came to a realization the last day in March when the new gas was first turned into the mains. The plant, which is of the coal gas type, is located on the south side of Superior street, between Barr and Lafayette streets. Many interesting things are to be observed in connection with the newly completed plant, one of which is the provision for the sensible handling of the by-products, coke, tar and ammonia. All of the apparatus was furnished either from the shops of the Western Gas Construction Company, or under its purchasing direction. The generating apparatus and construction were furnished by the Laclede-Christy Clay Products Company, of St. Louis. The generating apparatus consists of 8 benches of 6's, and the general layout of the machinery reflects great credit on the capability of its designers, for the ground space presented many chances for good engineering skill. The plant was set over for construction last fall, and Manager Mulholland is to be congratulated over the outcome. In taking leave of this, I am constrained to remark that the one who looked over the gas supply of Fort Wayne, say 18 years ago, and then witnessed the tremendous use and misuse of natural gas, may be easily forgiven for saying that wonders never cease. This remembering the fact that the natural gas of 1890 is relegated to the rear by the artificial product of 1909."

MAYOR BEHRMAN, of New Orleans, La., has signed the ordinance under which the Busch-Everett syndicate, of St. Louis, is granted the right to distribute natural gas from the Caddo and adjoining fields to and through the streets of New Orleans. As we understand it the rates that may be charged for natural gas in New Orleans are: Maximum, 45 cents per 1,000; minimum, 35 cents—graded according to the quantities used each month.

A CORRESPONDENT in Ottawa, Canada, writing under date of the 31st ult., forwards this: "The Canadian Government has decided to forbid the exportation of natural gas into the United States, the ban to be from the first inst. One effect of this will be to compel the Provincial Gas Company, of Welland, Ontario, henceforth to confine its operations in the Canadian market. When the enterprise was floated in 1888, the promoters sought to interest both Toronto and Montreal capitalists in the project, but they could get no large financial backing in either city. They then turned to Buffalo, where the capital was speedily raised, wherefore the result was an agreement to take in Buffalo all the natural gas available. That contract will expire in 1910, but meantime the Canadian demand has so grown that, under the provisions of the act of 1907, the Government finds itself constrained to consider the needs of the home market in preference to any other."

THE Boston *Globe*, of recent date, had this to say: "The New England Coal and Coke Company (Massachusetts Gas) heretofore a holding corporation, has been made an operating Company, with a Massachusetts charter just granted by the Secretary of State. Under it the Company is authorized to buy and sell coal and its by-products, to acquire, purchase and lease coal mines and properties, and to operate and maintain mines thereon. The charter further allows the new concern to engage in the wholesale and retail coal business, to buy, lease and construct storehouses, to engage in the business of acquiring, owning, managing, exchanging and dealing in stocks and securities of corporations engaged in the coal mining business, or in owning or operating railways or railroads. The Company has 5,000 common and 1,000 preferred shares, of which the common shares are issued. The following interests affiliated with the Massachusetts Gas Company are the incorporators, and are credited with two shares each: Warren Motley, Robt. Grant, A. S. Bull and A. A. Ballantine."

"B. M.," writing from Rochester, N. Y., under date of the 5th inst., says: "I noted with interest your 'piping time' item of recent date, and coincide with you. In fact our 'Easy Boss'—that is 'easy' if you are doing the right thing by the Company—also has the extension of our pipe system in his pipe, as witness the statement—and it is nearly official—thereof that was published in the Rochester *Herald* yesterday: 'Owing to the increased volume of building in Rochester the Rochester Railway and Light Company is preparing to lay from 15 to 20 miles of new gas mains in various parts of the city. In accordance with the franchise granted by the town of Greese, gas mains will be placed in the streets running off Lake avenue, to the Boulevard, just north of Ridge Road. Mains will also be placed in Flower City Park for 2,500 feet west of Dewey avenue. The town of Yates, owing to increased building in that section, is anxious that the Light Company shall pay attention to that section. The Company will continue the gas main in St. Paul street out beyond the Ridge Road to supply the growing demand in that portion of one of Rochester's progressive suburbs. The mains are also to go through East avenue beyond Brighton. The Pensfield Road folks also want gas, and are likely to get it.'—L."

THE Tuckahoe (N. J.) town authorities have arranged for the placing "in their midst" of an acetylene system up to the maintaining of 3,000 burners. Under the circumstances, we fear that "in their midst" was not the proper place for their new possession. Had it been carefully put away "out in the woods," the equipment would look to have a wider spot for its gyrating when it gets ready to "go up."

THE special election held the last week in March, at Newton, Ia., seems to have negatived the proposition to bond the settlement in $35,000, the proceeds to go to the constructing of a municipal gas plant, not having received the necessary ⅔ of the ballots cast. This result is a strange one, when it is understood that, at the same election, the proposition to engage the municipality in the operation of public utilities on general account was carried by a vote approximating ⅔ of the ballot cast.

"MODERN," in a newsy note from Springfield, Mass., written the 6th inst., informs us that at a meeting of the Directors of the Springfield Gas Light Company, held on the 1st inst., the gross selling rate was put at $1 per 1,000 cubic feet, with 10 cents off for prompt payment, the concession to date from July 1st. This is equivalent to a reduction of 10 cents per 1,000. The prepayment meters in use (these number close to 12,000) will be required to pass the customer 277 cubic feet for 25 cents. At present the meters are geared to pass 263 cubic feet. All credit to Manager Fowler and his Directors for the smoothness of the way in which the affairs of the Springfield Company have been and are being conducted. Without fuss-and-feathers, but with study and application, the Springfield folks go calmly on, reaping by-the-way a substantial return financially as the net result.

ALL that is preventing Mr. R. K. Runner, of Freeport, Ills., from going on with the construction work on the gas plant of St. Charles, Mo., a franchise for which was granted him and associates sometime ago, is the expressed will of the voters at the spring election. This venture will take up at least $30,000.

THE Salem (Mass.) Gas Light Company is to make a fair trial of the rate at which it may hereafter sell gas, as required by the mandate of the State Board of Gas and Electric Commissioners. The trial commenced the 1st inst. and will be carried on for a period of 6 months. The net rate fixed by the Commission is $1.10 per 1,000 cubic feet.

THE Meriden (Conn.) Gas Light Company will pipe gas to Southington. The route approved is from Plant to Cooper street, to Cook avenue, to Orange out to South Fourth, thence to Main street, into Southington.

The Market for Gas Securities.

In sympathy with the general list Consolidated sold off from the quotations of last week, but by Wednesday last some positive purchasing caused an upward turn, the shares closing last evening (Thursday) at identically equal figures with those of the prior week, 138¼ to 138½. The Exchange is closed to-day (Good Friday). Brooklyn Union is featureless. The market for city gas bonds is fairly active, but holders are not disposed to deal liberally at current quotations.

Peoples, of Chicago, is again on a 7 per cent. basis, and the shares responded smartly on the announcement. The closing Thursday was at 117¼ to 117¾. The 125 mark should easily be reached within 30 days. Massachusetts common is 64¼ bid.

Gas Stocks.

Quotations by George W. Close, Broker and Dealer in Gas Stocks.

16 WALL STREET, NEW YORK CITY.

APRIL 12.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par value of $100 per share:

N. Y. City Companies,	*Capital.*	*Par*	*Bid.*	*Asked.*
Consolidated Gas Co.	$73,177,000	100	138¼	138⅜
Central Union Gas Co.—				
1st 5's, due 1972, J. & J.	8,000,000	1,000	98	101
Equitable Gas Light Co.—				
Con. 5's, due 1932, M. & S.	1,000,000	1,000	—	105
Mutual Gas Co.	3,500,000	100	155	165
New Amsterdam Gas Co.—				
1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	100¼	102
New York & Richmond Gas Co. (Staten Island)	1,500,000	100	37	43
1st Mtg. Gold Bds. 5 p. ct.	1,000,000	—	100	101
New York and East River—				
1st 5's, due 1944, J. & J.	3,500,000	1,000	104	107
Con. 5's, due 1945, J. & J.	1,500,000	—	97	101
Northern Union—				
1st 5's, due 1927, J. & J.	1,250,000	1,000	94	100
Standard	5,000,000	100	—	75
Preferred	5,000,000	100	70	100
1st Mtg. 5's, due 1930, M. & N.	1,500,000	1,000	100	105
The Brooklyn Union	15,000,000	1,000	133	136
1st Con. 5's, due 1948, M. & N.	15,000,000	—	91½	92
Yonkers	200,650	500	180	—
Out-of Town Companies.				
Bay State	50,000,000	50	1¼	1⅝
" Income Bonds	2,000,000	1,000	—	75
Binghampton Gas Works	450,000	100	—	65
" 1st Mtg. 5's	500,000	1,000	90	95
Boston United Gas Co.—				
1st Series S. F. Trust	7,000,000	1,000	82	85
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
Bonds, 5's	5,250,000	1,000	60	60½
Capital, Sacramento	500,000	50	—	35
Bonds (6's)	150,000	1,000	—	—
Chicago Gas Co. Guaranteed Gold Bonds	7,000,000	1,000	104	106¼
Cincinnati Gas and Electric Co.	29,500,000	100	91¼	92
Columbus (O.) Gas Co., 1st Mortgage Bonds	1,500,000	1,000	96	98
Columbus (O.) Gas Lt. & Heating Co.	1,682,750	100	90½	91
Preferred	3,026,500	100	75½	80
Consumers, Toronto	2,000,000	50	200	204
Consolidated, Baltimore	11,000,000	100	—	105
Mortgages, 6's	3,000,000	—	—	118
Chesapeake, 1st 6's	1,000,000	—	—	—
Equitable, 1st 6's	910,000	—	—	—
Consolidated, 1st 5's	1,490,000	—	—	112
Consolidated Gas Co. of N. J.	1,000,000	100	15	17
Con. Mtg. 5's	880,000	1,000	92	95
Bonds	75,000	—	—	100
Denver Gas and Electric	458,000	—	102	105
Detroit City Gas Co	5,000,000	50	—	50
" Prior Lien 5's	4,619,000	1,000	97	100½
Detroit Gas Co., 5's	381,000	1,000	75	80
Equitable Gas & Fuel Co., Chicago, Bonds	2,000,000	1,000	—	101
Essex and Hudson Gas Co.	6,500,000	—	39	40
Fort Wayne	2,000,000	—	—	—
" Bonds	2,000,000	—	55	—
Grand Rapids Gas Light Co., 1st Mtg. 5's	1,225,000	1,000	104½	105
Hartford	750,000	25	190	200
Kansas City Gas Light Co., of Missouri	5,000,000	100	—	38
Bonds, 1st 5's	3,822,000	1,000	102	104
Laclede Gas Co., St. Louis.	10,000,000	100	—	100
Preferred	2,500,000	100	60	90
Bonds	10,000,000	1,000	104	104¼
Lafayette Gas Co., Ind.	1,000,000	100	—	60
Bonds	1,000,000	1,000	60	65
Louisville	2,370,000	50	143	145
Madison Gas and Electric Co.				
" 1st Mtg. 6's	350,000	1,000	106	108½
" 6 per cent. scrip, due 1910	100,000	25	60	60½

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(*Continued on page 646.*)

DIVIDEND NOTICE.

AMERICAN LIGHT AND TRACTION CO.,
40 WALL ST., NEW YORK CITY, April 6, 1909.

The Board of Directors of this Company, at a meeting held this day, declared the regular quarterly dividend of ONE AND ONE-HALF PER CENT. (1½ per cent.) on the Preferred stock and a dividend of TWO PER CENT. (2 per cent.) on the Common Stock of the Company, payable May 1, 1909, to stockholders of record at the close of business April 20, 1909. The Transfer Books for both COMMON AND PREFERRED Stock will close April 20 at 3 o'clock P.M., and will reopen May 1, 1909, at 10 o'clock A.M.

1766-1 C. N. JELLIFFE, Secretary.

DIVIDEND NOTICE.

OFFICE OF THE UNITED GAS IMPROVEMENT CO.,
N. W. CORNER BROAD AND ARCH STS.,
PHILADELPHIA, PA., March 10, 1909.

The Directors have this day declared a quarterly dividend of 2 per cent. (one dollar per share), payable April 15th, 1909, to stockholders of record at the close of business, March 31, 1909. Checks will be mailed.

1762-5 LEWIS LILLIE, Treasurer.

Position Wanted

By a competent and reliable man, with 13 years of thorough, practical experience in all departments of the gas business; 33 years of age; married; strictly sober; good technical education, and one who can show good results. At present employed as manager in a city of 40,000 inhabitants. Can furnish first-class references from his present and past employers, as well as others. Willing to go anywhere, but the Far West or Pacific Coast preferred. Address, "BOX 24,"

1764-4 Care this Journal.

WANTED,

Position as Foreman in Retort House.

At present employed. Good reasons for changing. Address, "K. W.,"

1765-2 Care this Journal.

WANTED,

A Position as Foreman or Assistant to Superintendent or Manager,

By a young married man; sober and reliable; best of references; experienced on both high and low pressure water and coal gas. Address, "RELIABLE,"

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As Superintendent,

By a competent water gas manufacturer, 10 years' experience, now employed by a company making 300,000,00 feet. Also street foreman, competent on high and low pressure work, and who can get results.

1766-2 Address, "S. A. K.," care this Journal.

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As Manager or Superintendent

Of gas, gas-water or gas-electric plant, by a competent and reliable man with 10 years' thorough experience in all departments of the gas business, familiar with all details, with a company that will appreciate hard work and intelligent, economical operation. Can show good results. Married, sober. At present employed. Willing to go anywhere, but would prefer South or Middle-West.

Address, "COMPLETE,"

1766-1 Care this Journal.

Situation Wanted.

I have obtained gratifying results by combining soliciting, meter reading and installation work in one department. If you are open for net increase in sales write me. Compensation, salary and commission; therefore, I have to make good. Address, "M. O.,"

1766-2 Care this Journal.

Position Wanted

As Superintendent,

By a competent gas man who has had practical experience in all branches of the business, both coal and water gas. At present employed. A-1 references.

1755-tf Address, "R. C.," care this Journal

Position Wanted.

On or before May 1st I shall be open for a position as superintendent or manager of a gas or electric property or of a combined property. I am a graduate of a leading technical university and have had 6 years of actual operation in the above lines. I am obliged to look for a position because of a complete change in the management of the companies I am now employed with as assistant to the president. I can refer directly to him as one of my references, and also to several leading gas and electrical engineers as to my ability and character. I am 29 years of age. Address reply to "M.,"

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Position Wanted.

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1766-2 Address, "M. M., Box 151," care this Journal.

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(Concluded from page 645.)

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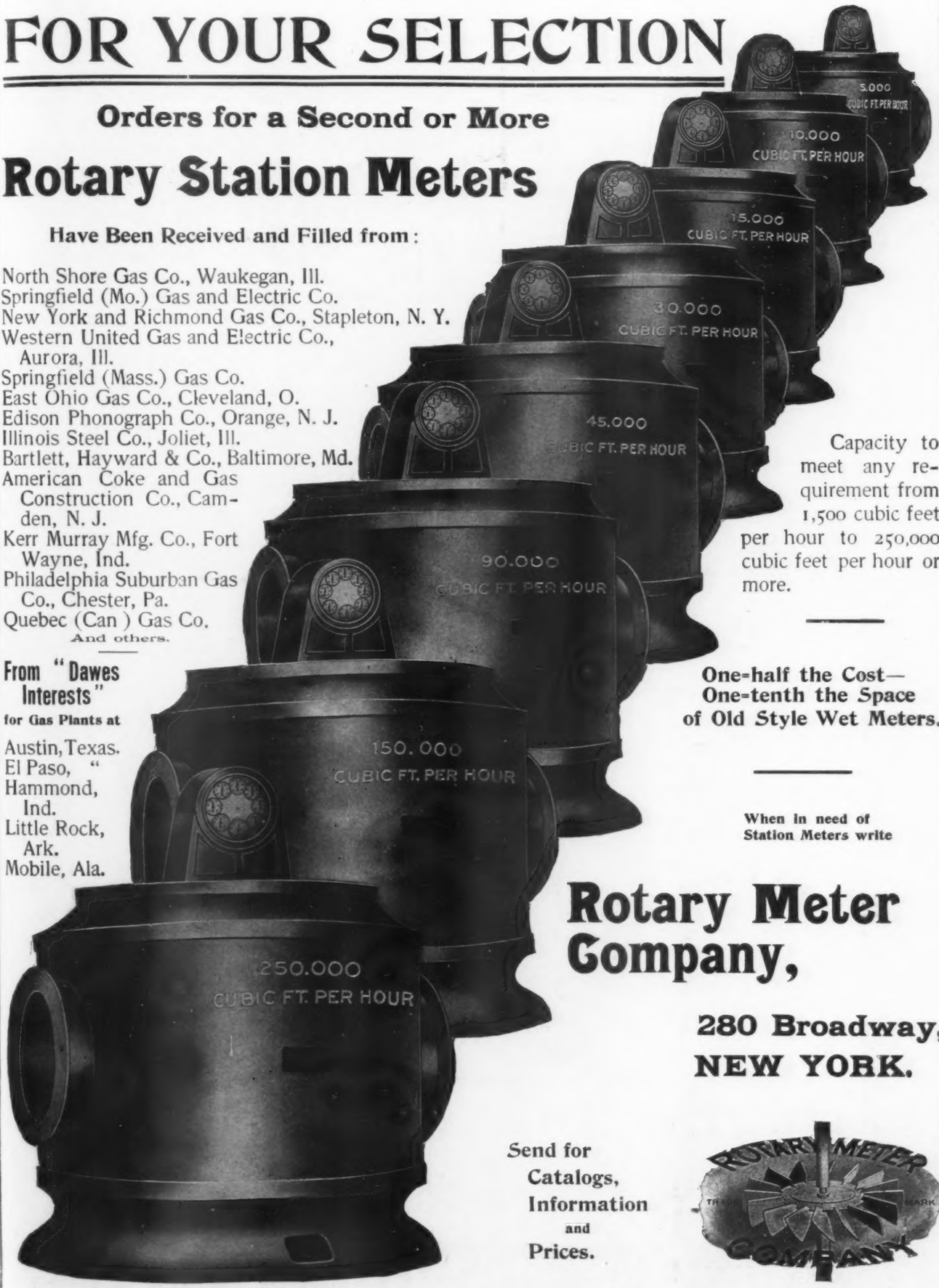

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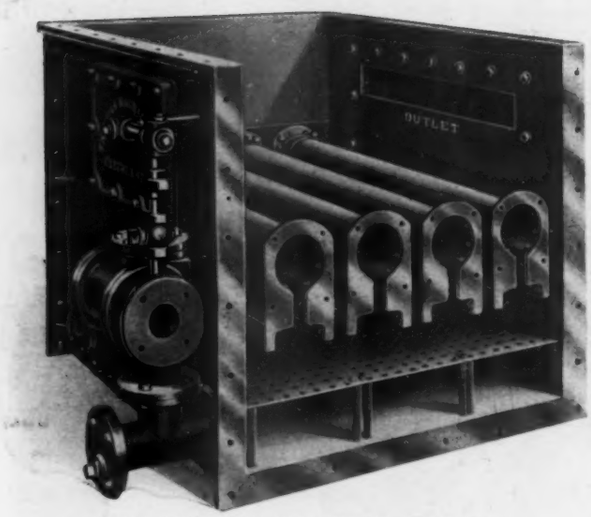

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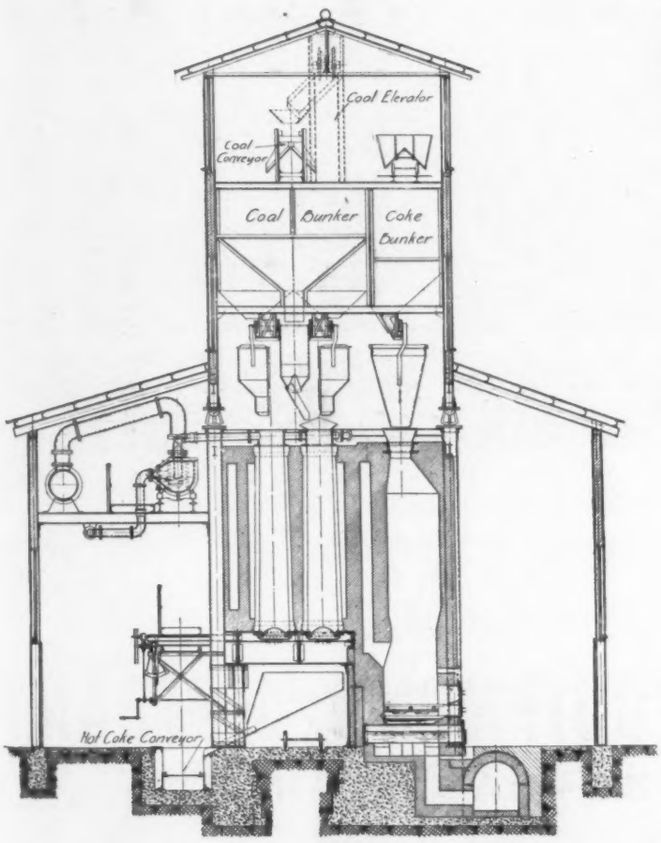

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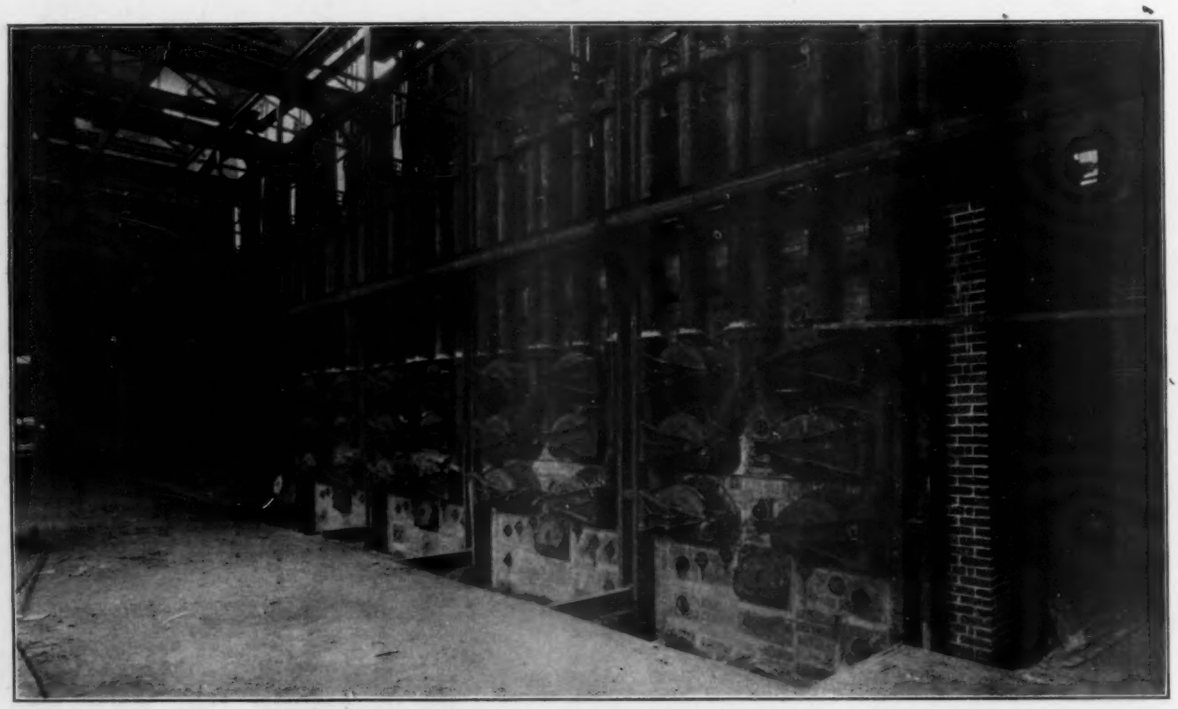

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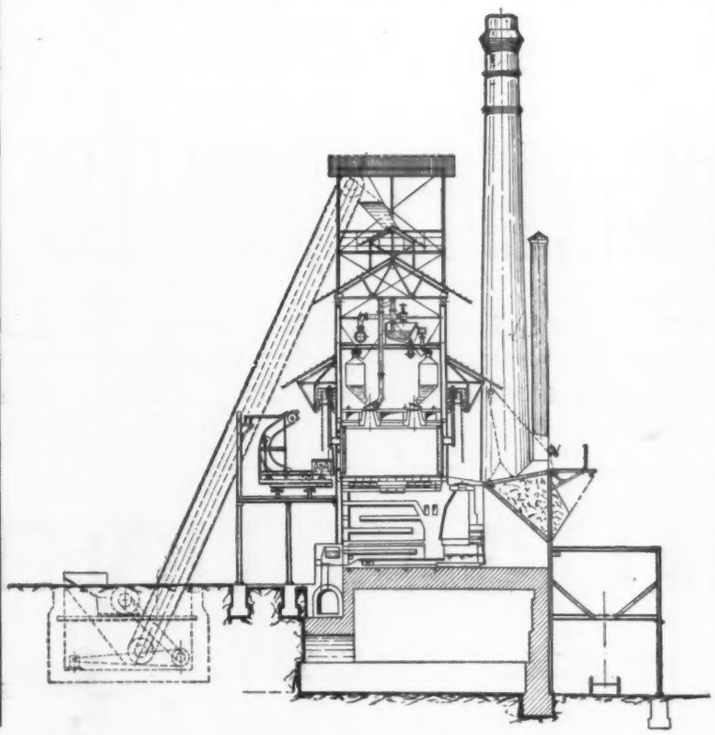

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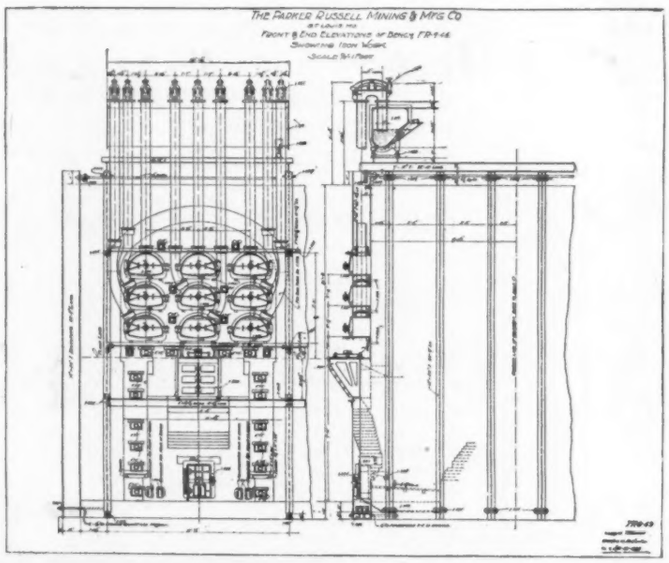

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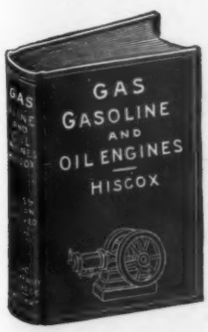

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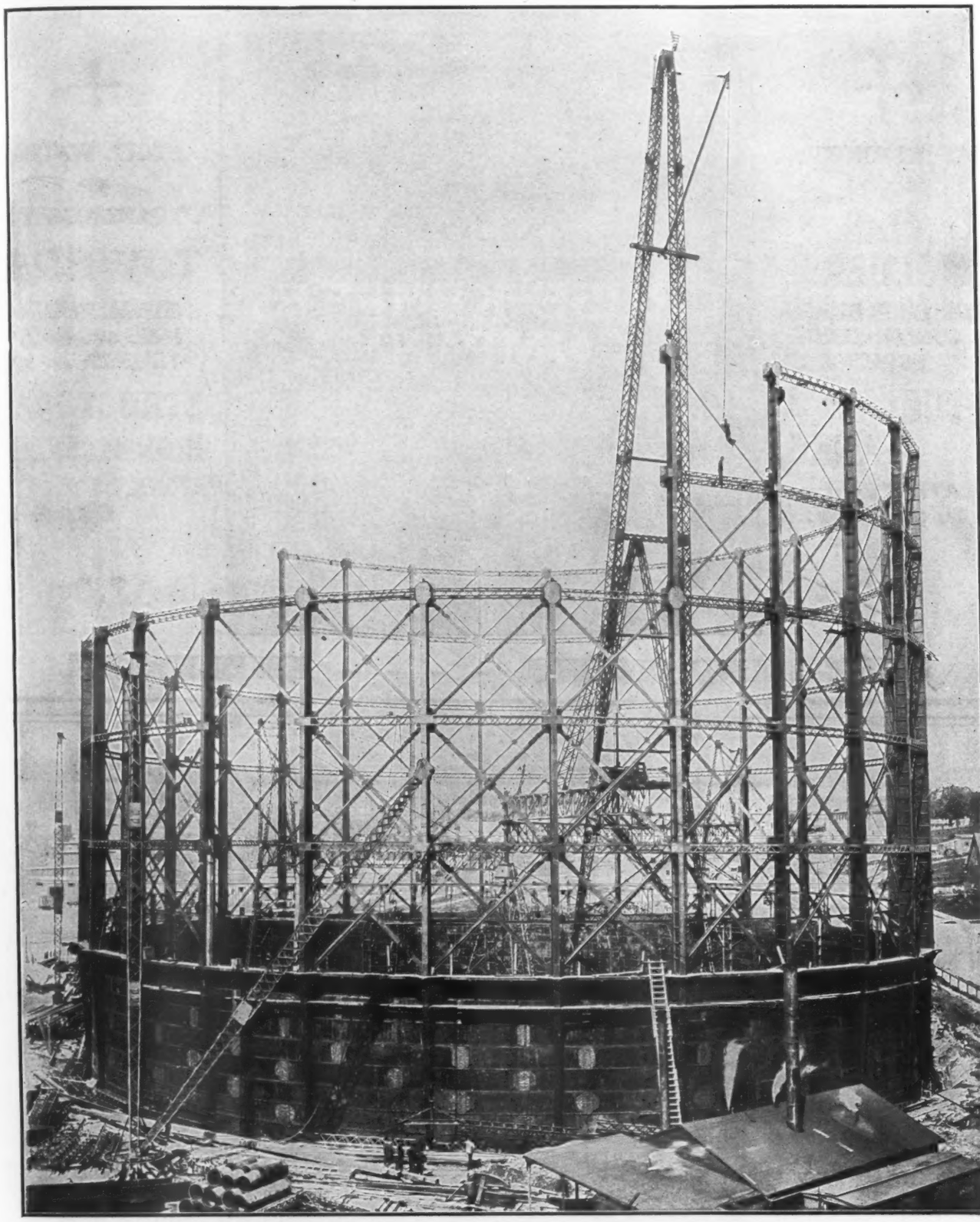

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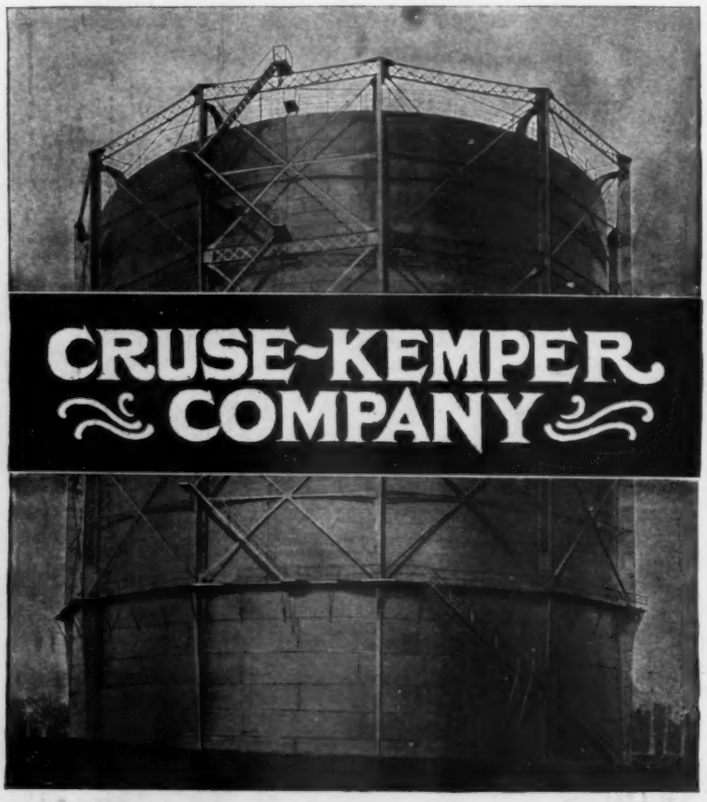

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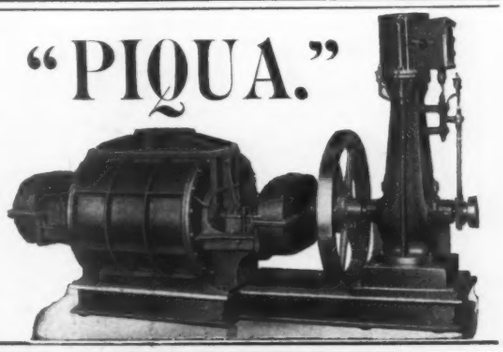

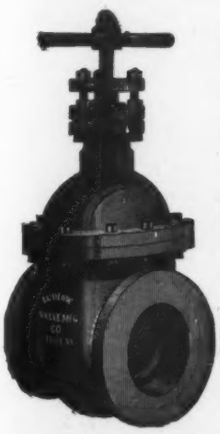

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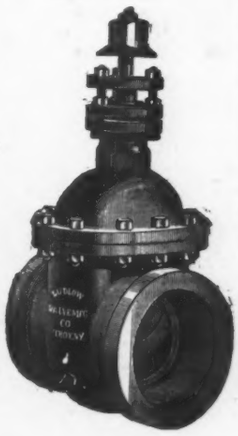

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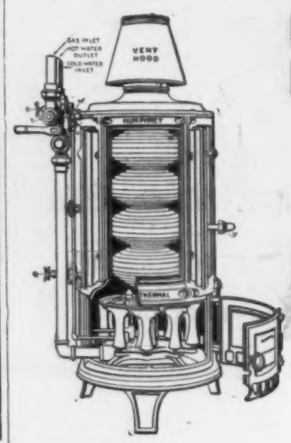

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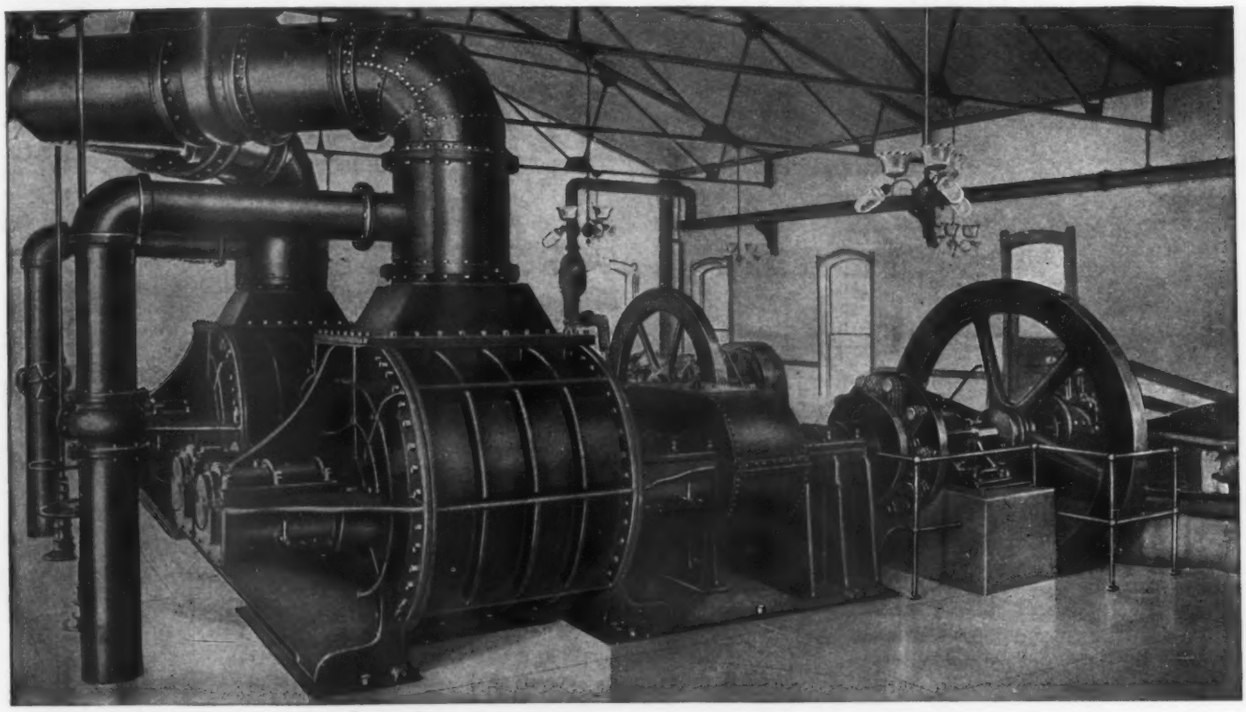

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Recommended by the Public Service Commission.

The following appeared in THE NEW YORK TIMES January 24, 1909:

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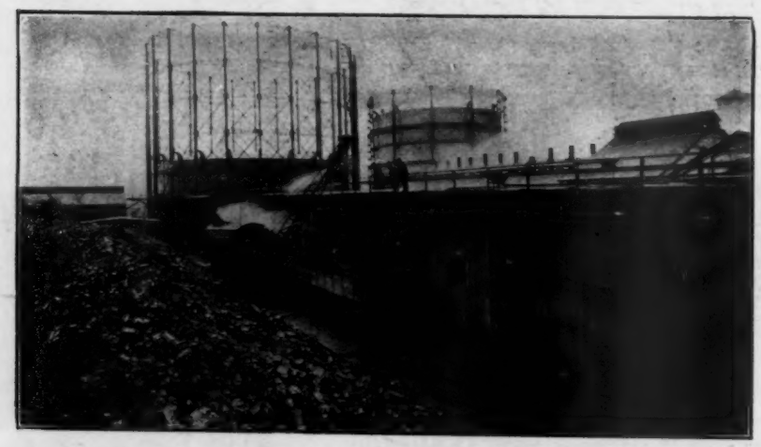

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STANDARD REDUCTION FACTORS FOR GASES,

A Number of Tables Necessary for the Reduction of the Volume of any Gas at any Temperature, Pressure and Degree of Saturation to its Equivalent Volume under Standard Conditions,

TOGETHER WITH

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Photometrical and Experimental Apparatus.

PUBLIC LIGHTING TABLE.

APRIL, 1909.

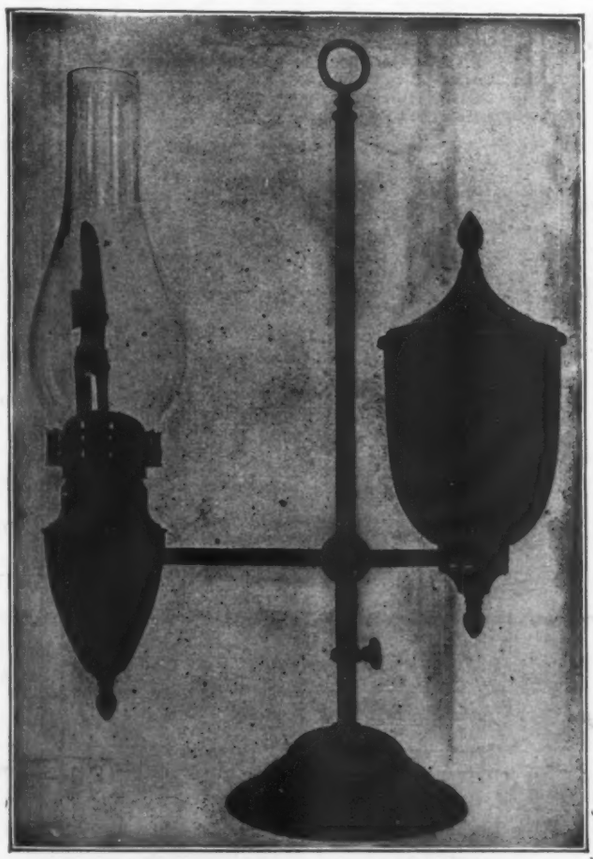
Table No. 1.
FOLLOWING THE MOON.

Day of Week.	Date.	Light.	Extinguish.
Thu.	1	3.40AM	4.50AM
Fri.	2	4.10	4.50
Sat.	3	4.30	4.50
Sun.	4	No L.	No L.
Mon.	5	No L.FM	No L.
Tue.	6	No L.	No L.
Wed.	7	7.00PM	9.20PM
Thu.	8	7.00	10.20
Fri.	9	7.00	11.30
Sat.	10	7.00	12.30AM
Sun.	11	7.10	1.30
Mon.	12	7.10	2.30
Tue.	13	7.10LQ	3.20
Wed.	14	7.10	4.00
Thu.	15	7.10	4.20
Fri.	16	7.10	4.20
Sat.	17	7.10	4.20
Sun.	18	7.10	4.10
Mon.	19	7.10NM	4.10
Tue.	20	7.10	4.10
Wed.	21	7.10	4.10
Thu.	22	7.10	4.10
Fri.	23	7.10	4.10
Sat.	24	11.00	4.10
Sun.	25	11.50	4.00
Mon.	26	12.40AM FQ	4.00
Tue.	27	1.10	4.00
Wed.	28	1.40	4.00
Thu.	29	2.10	4.00
Fri.	30	2.30	4.00

TOTAL HOURS DURING 1909.

By Table No. 1.

	Hrs.Min.
January	212.20
February	183.40
March	173.00
April	151.10
May	144.10
June	138.50
July	145.40
August	160.30
September	180.00
October	201.00
November	216.30
December	233.40
Total, yr.	2140.30



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10-Candle Power.

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This lamp is a perfect substitute for the 10-candle Pentane Lamp hitherto used, and has the following advantages:

1st. It uses Standard Kerosene Oil (Pratt's Astral Oil or equivalent).

2d. It is remarkably steady. Will burn 24 hours continuously with less than 2 per cent. variation.

3d. It is much less dangerous than Pentane, which is a kind of gasolene.

4th. It is not easily affected by air currents in the photometer room.

5th. Since the lamp may burn continuously, the candle power of gas may be taken at any moment, if necessary. This insures steady illuminating power without waste of carburetting material.

6th. The first cost of the lamp brings it within the reach of even small gas works.

7th. Costs much less to maintain than a Pentane lamp or sperm candles doing the same service.

8th. Is not affected by the weather.

PUBLIC LIGHTING TABLE.

APRIL, 1909.

Table No. 2.
NEW YORK CITY.
ALL NIGHT LIGHTING.

Day of Week.	Date.	Complete Lighting in One Hour (From Time Given P. M.)	Complete Extinguishing in 50 Minutes (From Time Given A. M.)
Thu.	1	5.57	4.47
Fri.	2	6.07	4.37
Sat.	3	6.07	4.37
Sun.	4	6.07	4.37
Mon.	5	6.07	4.37
Tue.	6	6.07	4.32
Wed.	7	6.07	4.32
Thu.	8	6.07	4.32
Fri.	9	6.17	4.22
Sat.	10	6.17	4.22
Sun.	11	6.17	4.22
Mon.	12	6.17	4.22
Tue.	13	6.17	4.22
Wed.	14	6.17	4.22
Thu.	15	6.17	4.22
Fri.	16	6.27	4.17
Sat.	17	6.27	4.17
Sun.	18	6.27	4.17
Mon.	19	6.27	4.12
Tue.	20	6.27	4.12
Wed.	21	6.27	4.12
Thu.	22	6.27	4.12
Fri.	23	6.37	4.02
Sat.	24	6.37	4.02
Sun.	25	6.37	4.02
Mon.	26	6.37	4.02
Tue.	27	6.37	4.02
Wed.	28	6.37	4.02
Thu.	29	6.37	4.02
Fri.	30	6.47	3.52

TOTAL HOURS DURING 1909.

	Hrs.Min.
January	428.30
February	358.15
March	353.10
April	298.10
May	263.20
June	234.45
July	248.30
August	278.00
September	311.25
October	370.05
November	397.40
December	438.35
	3980.25
Deduct on account of 50 min. extinguishing time	30.25
Total, yr.	3950.00

NEW YORK, 318 West 42d Street.
BOSTON, 820 Beacon Building.
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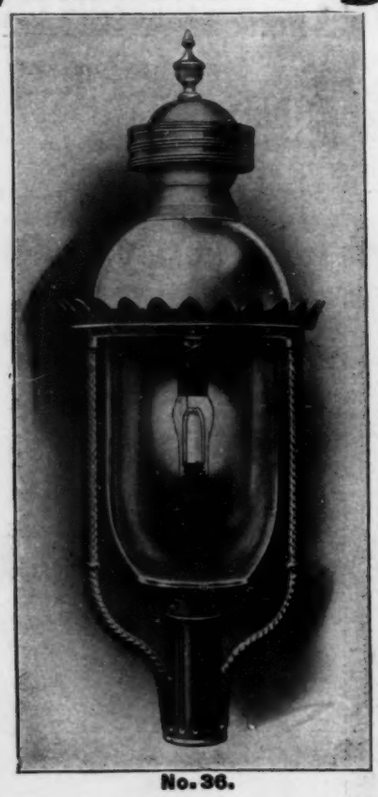
WELSBACH STREET LIGHTING COMPANY



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....OF AMERICA....

Controls and Operates the **Welsbach System of Street Lighting,**

Which includes its specially DESIGNED and PATENTED BURNER for PARK LIGHTING exclusively.

Uniformly SUCCESSFUL in 150 Cities and Towns.

By means of the Welsbach System of street lighting the superiority of GAS over electricity for street lighting has been fully demonstrated.

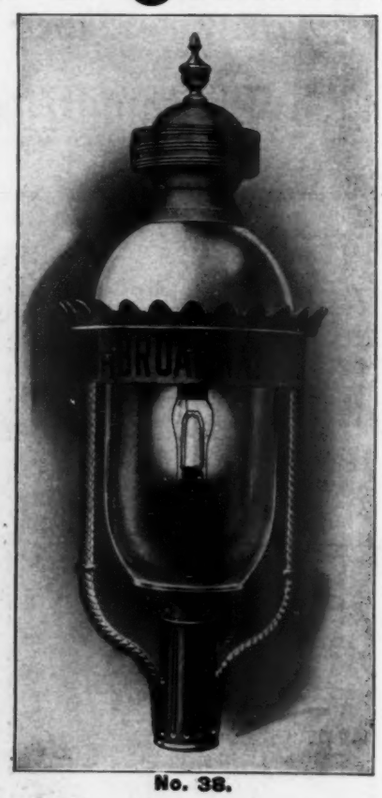
POINTS OF MERIT:

It is { Economical, Attractive, Successful, Up-to-date.

IT LIGHTS THE STREET.

Where there are no gas mains we can furnish an equally good light by our SELF-GENERATING NAPHTHA WELSBACH BURNER, and thereby supply a uniform light in all localities.

Correspondence Solicited from Gas Companies and Others interested in Municipal and Outside Lighting.



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THE BIGGEST LITTLE LIGHT IN THE WORLD.

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As its effectiveness and economy become better known the Welsbach Junior will supersede, for universal use in the home, the old-style open flame gas burners.

Gives 50-Candle Power.

Uses Two Feet of Gas per Hour.

Attaches to Any Gas Fixture.

Completely Hidden from View.

Use your own globe--either gas or electric.

Showing Welsbach Junior Light used in connection with ordinary glass globe.

SMALL—EFFICIENT—ECONOMICAL.

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Salesrooms in all Leading Cities of the United States.

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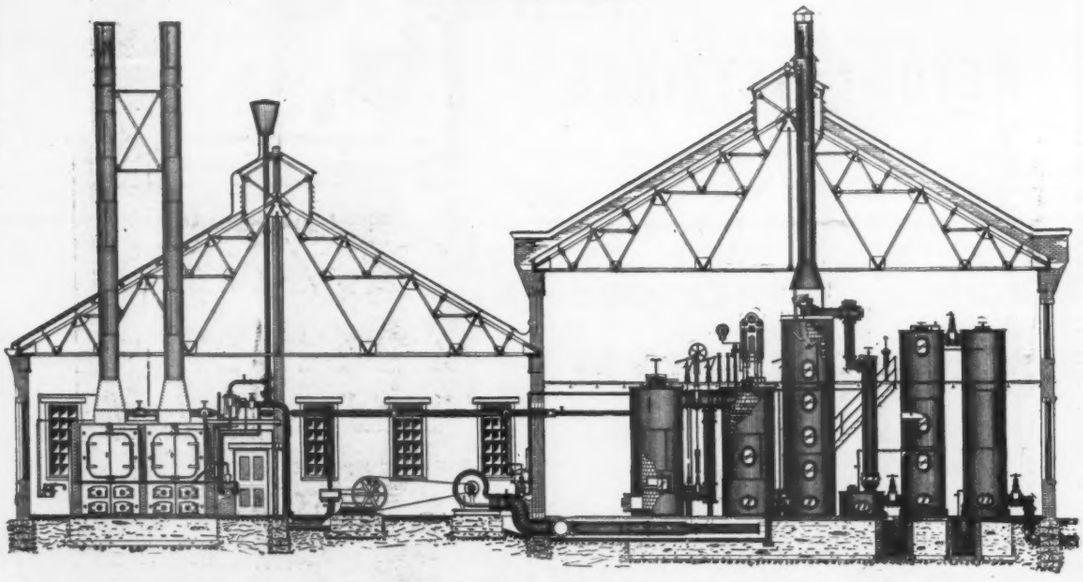
Largest Builders of CARBURETTED WATER GAS PLANT IN AMERICA.

SOLE AMERICAN BUILDERS

OF THE

Standard Double-Superheater Lowe Water Gas Apparatus.



TOTAL SETS INSTALLED TO DECEMBER 31, 1908, ... 690
TOTAL DAILY CAPACITY, TO DECEMBER 31, 1908, ... 558,565,000 cu. ft.

Tar Extractors for Carburetted Water Gas.
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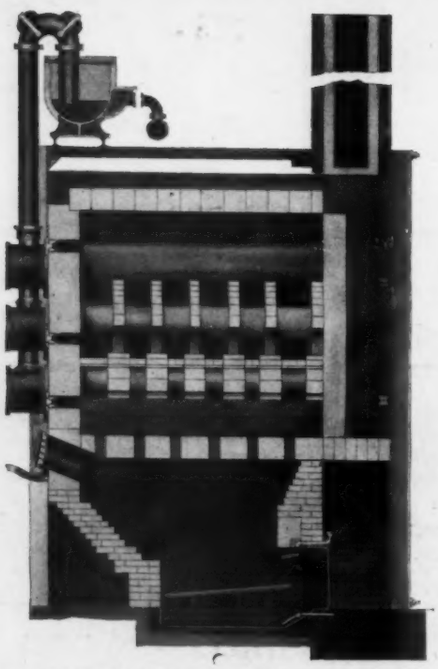

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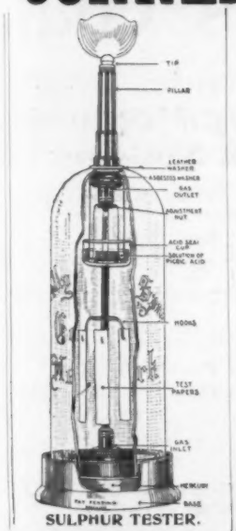

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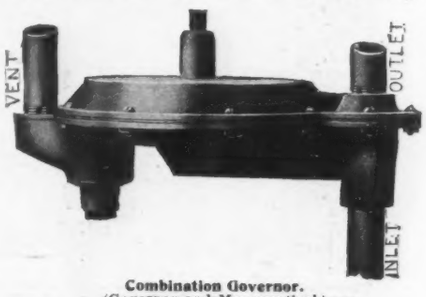

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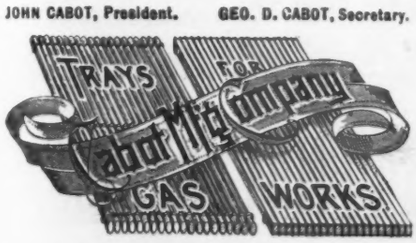

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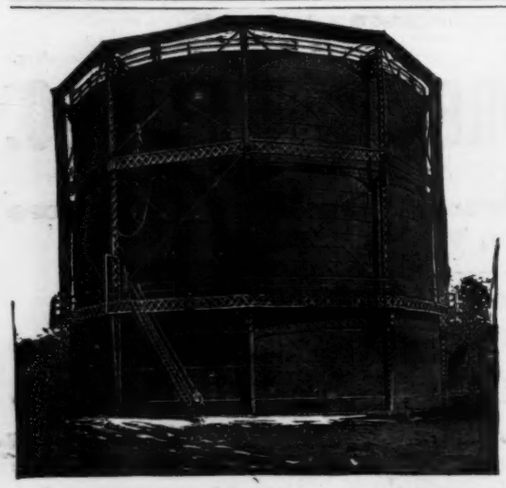

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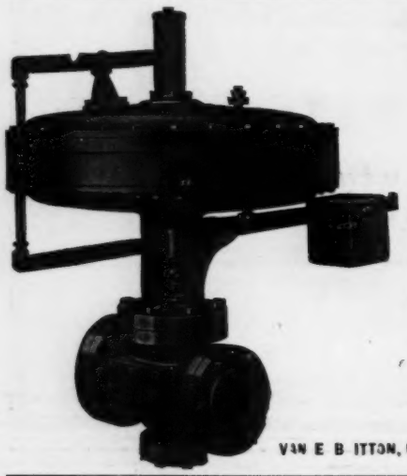

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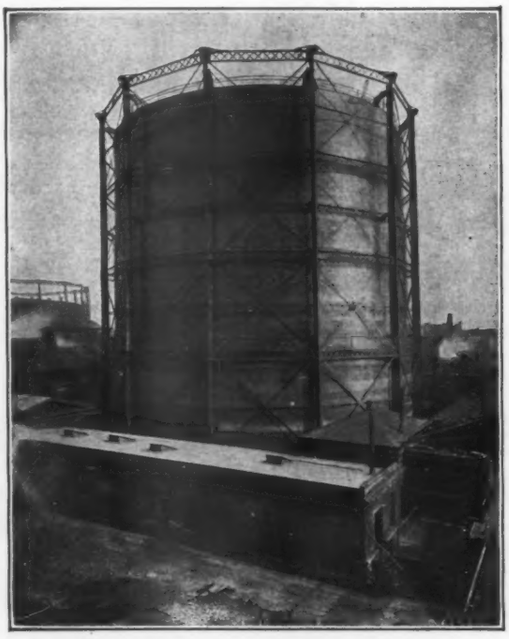

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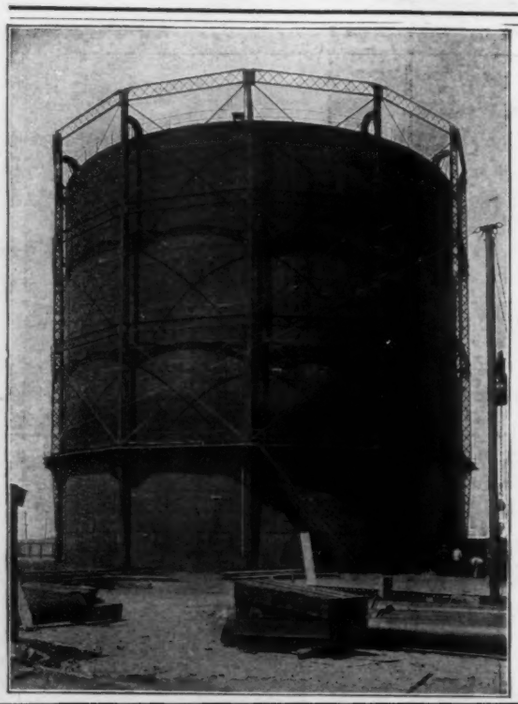

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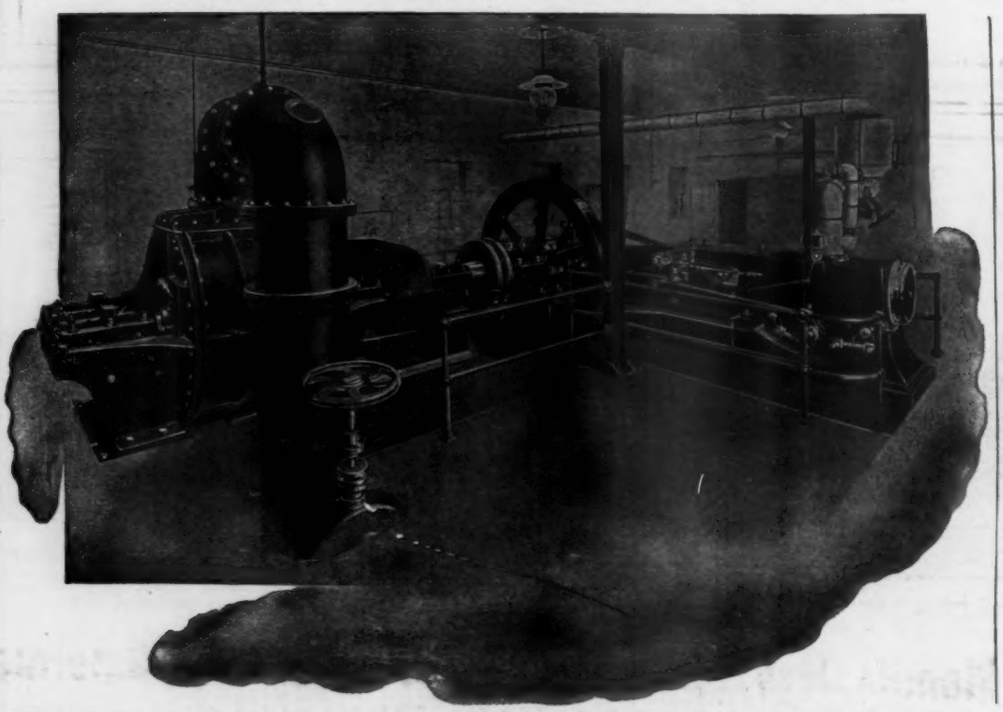

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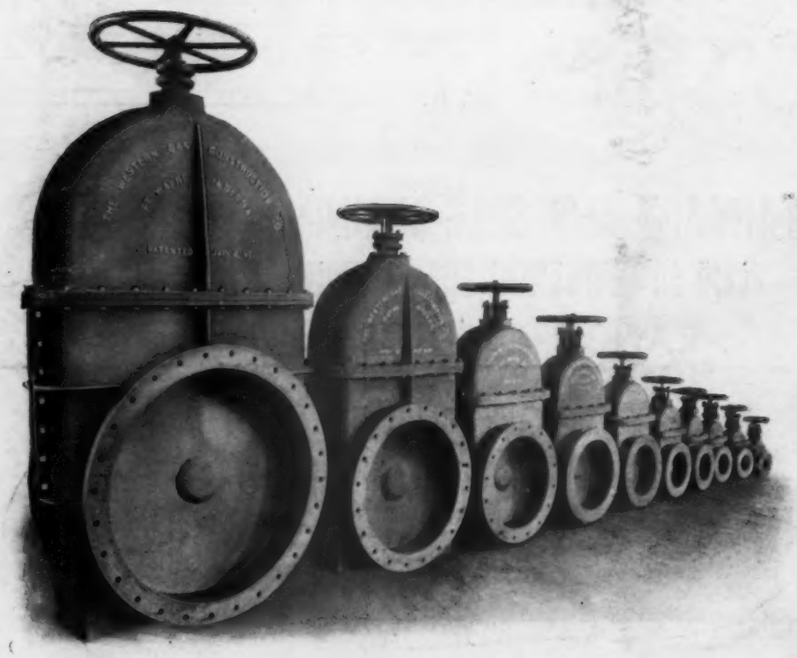
EASTERN OFFICE NEW YORK CITY. WESTERN OFFICE SAN FRANCISCO.
1909 Broad Exchange Building. 589 Howard Street.



GAS VALVES
FOR HIGH AND LOW PRESSURE,
4 inches to 48 inches.

CONTRACTORS AND BUILDERS
EVERYTHING FOR A GAS PLANT